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Paper and Pulp Men Discuss Foreign Trade

Joseph Kastner, Export Manager of American Writing Paper Co., Speaks At Luncheon Arranged By Bureau of Domestic Commerce, In Co-operation With National Foreign Trade Convention—Declares Latin America Presents Best Outlook for Increased Paper Sales From U. S.—Jesse Neal Calls Attention to New Market for Paper.

Latin-American markets present the best opportunity for increased paper sales from the United States, according to Joseph Kastner, export manager of the American Writing Paper Company, one of the speakers at a symposium on paper and pulp, held Wednesday, May 27, at the Hotel Commodore, New York. It was arranged by the Bureau of Foreign and Domestic Commerce, in cooperation with the annual National Foreign Trade Convention.

Mr. Kastner declared that of all American industries of comparable size and importance the paper industry probably had shown the least interest in foreign markets.

Foreign Markets Neglected

"If the demands of our demestic market forced continuous operation of the industry's plants at full capacity, an indifferent attitude toward foreign trade would be logical," he said. "With most of the mills, unfortunately, not now in this happy condition, gain in the total result. Under such circumstances it is additional profitable business."

Stressing the opportunity in Latin-American markets he continued:

Changes in Latin America

"The trade situation is parallel to that which existed here twenty-five to thirty years ago. These countries are gradually changing from purely agricultural to industrial pursuits. Paper consumption invariably increases rapidly with the growth of industry. Illiteracy is being combated by education and the number of new readers is increasing much faster than the population.

"In Latin-America there is no such clear-cut division between paper, printing and allied trades as exists here. The paper jobber is also a printer, blank-book manufacturer, stationer and lithographer, therefore the sales policies used in this market are not applicable. On the other hand, the introduction of new articles is easier, as the importer himself is in a position, through his own establishment, to put them directly in general consumption.

The speaker urged concentration as much as possible on the sale of branded and watermarked lines to foreign customers. "Use the marking 'made in the U. S. A.' liberally," he said. "In the past too many orders have been shipped without any of the manufacturers' identifying marks appearing anywhere, making it practically impossible for the recipient to order a repetition.

"Foreign buyers, remote as they are from the sources of their supplies, are naturally reluctant to change them. This is a handicap to begin with, but once contact has been made, it is the greatest asset in meeting competition. Export connections once made are practically permanent."

Other Important Addresses

Jesse H. Neal, general manager of the American Paper and Pulp Association, who presided, called attention to the new market for paper created in the Near East. He said that the adoption of the Roman alphabet in Turkey had opened a new avenue for paper and allied products.

Alan G. Goldsmith, secretary of the Mead Corporation, of Dayton, Ohio, spoke upon his personal experiences and observations in foreign countries; while Martin Kennedy, formerly Trade Commissioner of the Bureau of Foreign and Domestic Commerce in London, discussed the status of the paper industry in Great Britain and the market for exports in that country.

Scandinavian Markets Mark Time

WASHINGTON, D. C., May 29, 1931—A report to the Department of Commerce states that the Scandinavian pulp and paper markets continue to mark time. The chemical market is quiet with perhaps a better demand for strong sulphite than for the easy bleaching and bleached varieties. A number of Swedish sulphite mills have closed down for longer or shorter periods in order to reduce their output in accordance with the international agreement entered into last fall.

The sulphate market continues extremely dull, with prices still hovering around $1.50 and $1.60 ex dock Sweden port. The paper market is generally weak, the withdrawal of the Norwegian tonnage following the labor conflict, not yet having had any marked effect on prices. The most hopeful signs have been in the wrapping paper market.

Demand for Paper Improving in Philadelphia

Pennsylvania Paper Manufacturers Holding Production to Prevailing Consumption — Fine Paper Trading More Active, With Book Papers and Better Grades of Writing Papers Moving In Fairly Satisfactory Volume—Summer Specialties In Seasonal Request

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., May 31, 1931.—Continued broadening of demand for small lots of paper encourages the trade to believe that the spring time improvement is a first step in the upward revival of business. While the trade does not look forward to any normal activity at this time it feels more assured that the upward turn may be expected with the coming months. Hot weather needs are anticipated, as dealers in wrapping paper, sanitary specialties, and food product paper become more active, and there is every indication that these commodities will be consumed in larger quantities as the season advances.

Manufacturers are holding production to the hand to mouth requirements of the distributors. Prices appear firmer, although a single mill continues to offer lots of wrapping paper at lower values. However, the majority of manufacturers are holding off offerings, and co-operation from the mills in the problem of stabilizing the markets is freely evident in the absence of clearing sales which usually begin to appear at this time.

Distributors are clearing warehouses of hold overs from the past year, as the hand to mouth buying continues, and by the end of the month decks will be cleared for restocking with fresher supplies that will be needed in the Fall. Fine paper trading is much more active in the wholesale or mill division, as representatives of the manufacturers continue to enjoy a fair volume of orders for book and writing papers of the better grades. Paper stock is draggy and there are numerous supplies of the cheaper grades on hand.

Dill & Collins New Offset Designs

The Dill & Collins Company, manufacturers of fine papers, Richmond and Tioga streets, have arranged for a new packing and designs for offset papers made under the Dilco label. The offset papers are now available in case lots in fancy finishes. The designs, in addition to the regular offset grades for many years produced by the manufacturers, are hand made, ripple, crash, pongee, homespun, stucco, filigree and felt. They are packed in case lots made up from stock rolls, of 500 sheets. The line of Dilco Offset now comprises plain offset, and eight new finishes cut to the 500 case lots, in 70, 80, 100 and 120 basis. It is entirely a mill proposition.

Atlas Paper Co. Developments

A full line of drug and sanitary supplies used by drug and allied industries, has been added to the stocks of the Atlas Paper Company, 2nd and Vine streets, under the expansion plans of the head of the firm, Jacob Zacher. The new sanitary offerings include cellulose products used in hospitals and sold through the drug trades. There has also been added paper cups, soda fountain and ice cream supplies, paper plates and outing specialties, to augment the former lines of wrapping paper, twines, napkins, towels, and like products.

Eastern Roofing & Manufacturing Co. Bankrupt

Filing of the schedule in the bankruptcy proceedings against the Eastern Roofing and Manufacturing Company, and the Globe Supply Company, its subsidiary, 10th and Diamond streets, manufacturers of roofing papers and felts, showed the firm's assets as $22,803, and liabilities of $35,376.

Direct Mail Leaders Exhibit

Having been sent the rounds of the advertising clubs of the Eastern section of the country, the Direct Mail Leaders Exhibit for 1930 is now quartered at the headquarters of the D. L. Ward Paper Company in the Terminal Commerce Building. The new 1931 Direct Mail Leaders Exhibit, which is sponsored by the Direct Mail Advertisers Association, is now in course of compilation and will be shown for the first time at the Direct Mail Association Convention to be held in Buffalo, N. Y., at the Statler Hotel, October 8 to 10. The exhibit comprises the fifty best specimens of direct mail matter used throughout the year by various firms and takes into consideration the technique, advertising, and paper used in make up of the direct mail campaigns. It was first assembled by George W. Ward, who undertook its accumulation more than a decade ago, and until last year sponsored the annual exhibits. Last year it was taken over by the Direct Mail Advertisers Association .

Enterprise Paper Co. Adds Summer Specialties

Summer specialties in paper cups, ice cream and soda fountain supplies, with a line of cellulose products for drug store and hospital uses, have been added to the lines of the Enterprise Paper Company, 3rd and Callowhill streets. The auxiliary company, the Paramount Paper Products, 3rd and Vine streets, has been speeding up the production on its Parafan products in wraps and sacks used by the bakery, coffee and food industries. The firm is working on its own cellophane and paper combination wraps and bags which will be introduced soon.

Sabin Robbins Paper Co. Additions

Philadelphia headquarters of the Sabin Robbins Paper Company, 1028 North Delaware avenue, has been equipped with new cutters for special sizes. There has been placed in the cutting department two new Seybolds of 50 inch width. H. C. Riley, manager of the Philadelphia headquarters, who recently became associated with the Baltimore trade by opening of offices under management of the local branch in the Oriole City, states that this has been the best year in the history of the local business. The Baltimore office, of which Edward McGough is head, covers the southern trade as far as Richmond and takes care of the Washington, D. C. trade. The offices in Baltimore are located in the Hearst Tower Building.

Franklin Memorial Fete

Excavations for the Benjamin Franklin Memorial and Franklin Institute Museum will begin June 18, in the first steps of actual building of the shrine which will house a complete exhibition of various industries and working exhibits, to include a comprehensive display of the graphic arts with the paper industry sharing a large portion of the displays. The announcement of the actual work on the erection of the $6,000,000 Memorial was made at a meeting of the Poor Richard Club and ceremonies will mark the breaking of ground. One of the prime movers in the creation of this great Memorial to the patron saint of the Graphic Arts is Morton Gibbons-Neff, son-in-law of Grellet Collins of the Dill & Collins Paper Company,

and a former vice president of that company. Mr. Neff, while president of the Poor Richard Club in 1926, proposed that the Club bring about creation in Philadelphia of a proper memorial to Benjamin Franklin and at the meeting told how things really began to move when Cyrus H. K. Curtis, head of the Curtis Publishing Company, agreed to accept presidency of a corporation to be formed and to put the undertaking under way.

The paper industry has been approached by a committee of Philadelphia associates, including Norbert A. Considine, Paper House of Pennsylvania; Grellet Collins; and George W. Ward, of the D. L. Ward Company, who secured the interest of President S. L. Willson, of the American Paper and Pulp Association, when the first steps were taken to acquire a working paper exhibit that would do credit to the nation and to one of the pioneer trades of the country with its foundation laid in the City of Brotherly Love, where the first paper mill in America was erected.

There will be relics of the early days of the paper industry, including an old "nigger head," which was used in the David Rittenhouse Mill, the first erected for the manufacture of paper. Generous co-operation has been extended by the Americian Paper and Pulp Assocation, the General Electric Company, Westinghouse Electric Manufacturing Company and the allied trades in the printing industry. There will be shown the samples of the first paper made in America and the progress of manufacture from the hand-made products and machinery used in its production down to an actual working machinery exhibit, in full operation, of a modern paper mill.

These exhibits are to be the most important ever made of American industry and will attract world interest and students of United States industries from the four points of the globe as permanent displays throughout the years to come. It is believed by those who have sponsored the project that the Franklin Memorial will be the shrine for industry and will attract thousands seeking industrial information and education of the nation's industrial enterprises.

Paper Manufacturers Co. Starts Building

The foundation for the new building to conform with the present structure of the Paper Manufacturers Company, 5th and Willow streets, and the adjoining site, where were demolished six buildings to make way for the new addition, has been completed, and the contractors are busily engaged in erecting the main floor which will be finished before the end of the month. The new addition will be equipped with machinery for the expansion of the gummed paper departments of the firm, which recently entered that branch of the converting trade and is now producing volumes of these products in tapes and stay papers and gummed sheets of all colors for the lithographing and printing industries.

Frank A. O'Neil To Go Abroad

President Frank A. O'Neil, of the Paper Manufacturers Company, sails on July 4 for an extended trip abroad, accompanied by Mrs. O'Neil and their two older children, Frank A. O'Neil Jr., who graduates from the Wharton School of Finance at the University of Pennsylvania this month, and Miss Lucy O'Neil, who matriculates from Rosemont College at Merion. The family party will spend the summer months touring through the important centers of Continental Europe by automobile, taking in Belgium, Germany, Switzerland, Italy and France. They will return in mid-September.

Canada Power Reorganization

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., June 1, 1931.—The plan for the reorganization of the capital structure of Canada Power and Paper Corporation is about ready for forestation by the Protective Committee representing the security holders. Something like a bomb has been dropped in the camp, however, by the announcement that Hugo Biermans, former president of the Belgo Canadian Paper Company, is preparing on behalf of a group of bondholders of the company to take out an injunction to stop the carrying out of the plant that the Protective Committee has prepared. Mr. Biermans, in an interview, said that the protective committee is apparently ready to sacrifice Belgo Canadian for the benefit of other units of the organization, and that, as he understands the proposals which will be submitted, Belgo, on the basis of a fair plaint appraisal, is being given only about two-fifths of what it is entitled to receive.

The former news print executive, who, when he was actively associated with the industry in Canada, was recognized as one of the leading figures in the field, was, he stated, prepared at the outset, following upon the formation of the protective committee, to take over the Belgo Company and operate it as a separate entity. There is no question, according to Mr. Biermans, of the mill being without contracts, as the company is entitled to be given its fair proportion of the contracts which Canada Power and Paper Corporation holds.

Even failing this, however, he states that he would be sure of recovering the major portion of the contracts which Belgo previously held prior to the St. Maurice Valley merger. He was persuaded, however, by other substantial bondholders to keep Belgo within the organization, and permit the protective committee to go ahead with their reorganization plans which would embrace all of the various subsidiaries. Now that the proposals are almost ready for submission, the plan, providing no material changes are made in the interim, are, Mr. Biermans believes, inequitable, and he is, as previously stated, preparing to fight its consummation.

News Print Exempt from Consular Invoices

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 3, 1931.—The Government Treasurer, Mellon, has signed a new regulation exempting standard newsprint paper, pulpwood and wood pulp from the requirements of consular invoices.

The regulation states that these commodities and others, "all the foregoing when unconditionally free of duty or subject only to a specific rate of duty not dependent upon value," shall be exempt. It is also provided that "the commercial or pro forma invoice presented with the entry shall be sworn to as correct and true in every respect and shall set forth all the necessary information for customs and statistical purposes."

The department has defined the terms used in the order relative to paper and pulp as follows:

"The term 'standard news print paper' means the kind of paper chiefly used for printing newspapers, as defined by the Department in Treasury Decisions 40996 and 44317.

"The term 'pulpwood' means logs and timber, cut to lengths for the purpose of manufacturing into wood pulp. The term 'wood pulp' means the fibres of wood, produced either mechanically or chemically, for use in the manufacture of paper and pulp board and other pulp products."

The order becomes effective on July 1.

Kimberly-Clark to Supply Paper for "Liberty"

President Sensenbrenner Announces Closing of Contract With McFadden to Provide Body Stock for Weekly Periodical for Several Years—Kimberly and Niagara Mills Will Take On This Production—Deal Will Amount to Several Million Dollars Yearly

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., June 1, 1931.—Paper requirements for *Liberty* will be supplied for the next several years by the Kimberly-Clark Corporation, Neenah, Wis., according to announcement last week by F. J. Sensenbrenner, president. The deal came about following the recent sale of *Liberty* to the McFadden Publications by the Chicago *Tribune* interests.

According to Mr. Sensenbrenner, the company has closed a contract with McFadden to supply the body stock for *Liberty* for a period of several years beginning January 1, 1932. The sale will amount to several million dollars yearly, but the exact quotations were not announced. Kimberly-Clark mills at Kimberly and Niagara, Wis., will take on this production. The company has been supplying large quantities of book paper for other McFadden publications in the past.

Barge Line Planned

As a means of reducing shipping costs and speeding up delivery of foreign pulp-wood, paper mills of the Fox River Valley are considering the establishment of a barge line to bring the shipments right to their own doors from the east. This plan is being worked out simultaneously with a movement by promoters in St. Paul and Minneapolis, Minn. to establish a $10,000,000 barge line to transport coal from West Virginia via the Ohio and Mississippi rivers to the Northwest. Much re-shipment by rail has been necessary and it is believed 50 cents a ton on coal can be saved via the all water route. In the case of pulpwood, most of it is brought to Milwaukee or Manitowoc, ports of the Great Lakes, by boat, and it is then reloaded for shipment to the valley by rail. Twenty hours will be saved, it is estimated, if barges can bring the wood to the docks along the Fox River.

Kotex Subsidiary Dissolved

Articles of dissolution of the Kotex Manufacturing Company, Neenah, Wis., have been filed with the Secretary of State. The charter of the company has been surrendered and its assets liquidated. Ernst Mahler was president of the concern and P. H. McCaull, secretary.

This action merely does away with a subsidary of the present Kotex Company, of Neenah, Wis. The Kotex Manufacturing Company was organized a few years ago to manufacture the cellucotton for the Kotex Company, and the latter was the converting and sales corporation. The Kimberly-Clark Corporation now does all the manufacturing for the Kotex Company, and the need for the subsidiary no longer exists.

Work of Stream Pollution Committee

The committee made up of paper manufacturers and chemists to co-operate with the State Board of Health in the matter of stream pollution from paper mill waste will take part in a meeting of representatives of all Fox River Valley cities to be held in Appleton or Oshkosh, Wis. early this month. This group will take up the problem of sewage disposal and recommend a plan which will stop the use of the Fox River and Lake Winnebago for this purpose. The paper mill group has not found a substitute method of disposal of sulphite liquor and other waste discharges, but hopes to develop a remedy. It is contended that the impairment of health and the destruction of fish are factors important enough to demand serious and unified consideration of all concerned.

News of the Industry

Because of the fact that large shipments of manufactured products are shipped from Wisconsin paper mills to the southern and southwestern territory, the movement for a general investigation of rail and combination rail-and-water rates on paper articles from, to and within the above territory will be watched with considerable interest. The carriers have petitioned for the investigation, it is believed, with the hope of placing higher rates in effect on some articles. The Interstate Commerce Commission has not yet acted on the petition.

Fire smoldering in bales of old paper nearly caused new damage last week at the plant of the DePere Paper Manufacturing Company, DePere, Wis., the mill that was almost totally consumed by fire recently. High winds fanned the fires into action, endangering the boiler room and other parts of the property which had been saved. The spread was checked hurriedly, however.

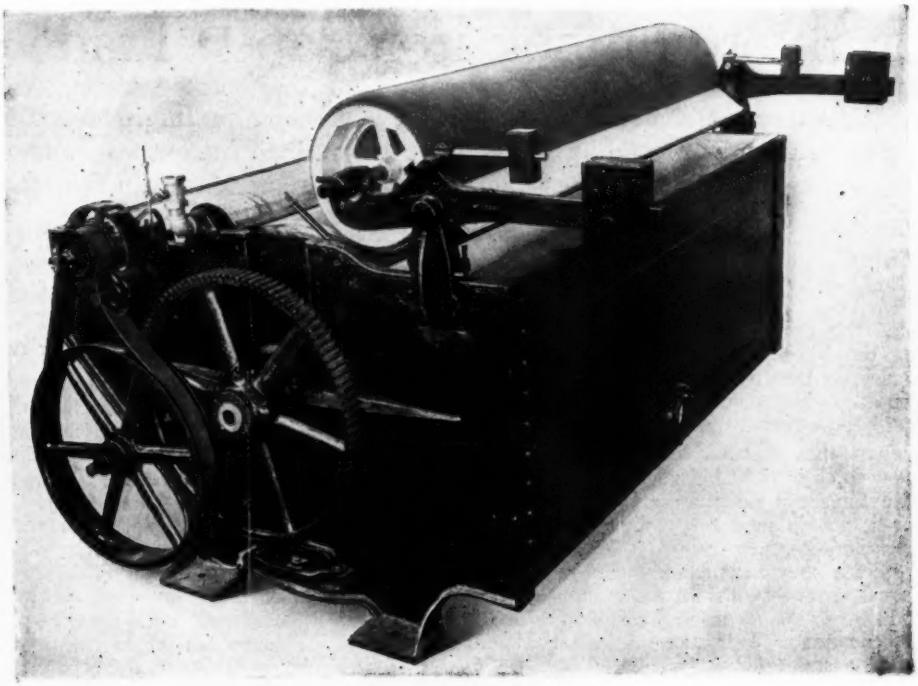
An inspection of the Whiting-Plover Paper Company's mill at Stevens Point, Wis., was made last week by Ajiamaru Shiraishi. He is the chief engineer of the Japanese Government paper mill at Tokyo, and was on his way to New York. He is inspecting various types of mills and learning the general practices of industries here.

Coty Machine Co. Busy

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., May 29, 1931—Officials of the Coty Machine Company have orders booked ahead which will necessitate full capacity operations for the remainder of the year at least and there is a probability of further expansion of plant facilities being made. The company is among the largest producers of paper bag machinery in the country. More orders are now being handled than ever before in the history of the firm and the current business depression has not been felt. The new volume of business contracted is taken as an indication that conditions are on the upward grade. It is claimed by officials that the need for larger manufacturing space is rapidly becoming acute while it is expected that additional equipment will also be necessary to take care of orders now on the books.

Operations have been conducted at full capacity for the past several months and there is a possibility of night schedules being started in order to send orders out on time. Arrangements are also being made for the enlargement of the working force to a slight extent as soon as additional machinery has been acquired. Only recently a new pattern shop was established in the local plant and this is expected to have the desired effect of speeding up production. Previously most of the patterns used by the firm had been furnished by a plant in this city. Further announcement of extensive plans being mapped out are expected within a few weeks.



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The Bird Save-All used with the Bird Closed System does everything the most complicated system can do. It recovers the fibre and puts the water in condition for re-use. Yet it costs little to operate.

This combination means most profit from white water treatment. Write.

BIRD MACHINE COMPANY
South Walpole - - - Massachusetts

THE BIRD SAVE-ALL

4910

Brighter Outlook For Paper Trade In Chicago

General Paper Merchants Express Opinion That Genuine Improvement May Be Anticipated By Next Autumn, Providing Business Is Maintained In Normal Volume During Dull Summer Months—Seasonal Betterment Experienced In Fine Paper Market

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., May 29, 1931.—With half of the year well on its way to conclusion Chicago paper merchants are of the definite opinion that, if everything can be held up during the slack summer season, some genuine improvement can be expected in the Fall. Statements indicate that a great deal of selling effort is going to be expended throughout the summer, regardless of the heat and vacations, in an effort to insure this Fall improvement.

Reports bear out surface indications that little changes can be noted in the Chicago market during the past week. The optimism is still there and conditions are at least the same, if not, in some cases, slightly improved. In the fine paper market, those groups selling to manufacturers of invitations, announcements, etc., have experienced some seasonal improvement. In the kraft field a bit of "pushing up" has been going on, as jobbers have become more and more encouraged over successful efforts to maintain some kind of a stable price situation.

Overproduction in Board

The board market, seriously overproduced, is reported to be working carefully in an attempt to take up the surplus slack and the fall months may find this market considerably improved. Book and cover papers report no unusual changes. Sulphite bond, in the fine group, is reported as the "slowest". Glassines have much room for improvement. Ground woods are slow with news print, with one week bringing out a fair run of business and the next week about facing for only a few scattered sales. Waste papers are dull, the higher grades still having the better of the argument, according to reports.

Paper Salesmen's Golf Outing

An unusually large turn-out pried open the golfing season as far as the Middle Western Division of the Salesment's Association of the Paper Industry is concerned. Eight foresomes toured the Wilmette Country club course on May 22, enjoyed a luncheon and dinner and, afterwards, some harmonious singing lead by Jim Coy, prima donna of the paper salesmen's ranks. Low net for the day went to a guest, Lou Sisson, of Racquet River Paper Company, Cincinnati. Low net, first nine, went to Joe Heyer, of Hollingsworth & Whitney, while low net on the second nine got around to Bill Tilden, of Eastern Manufacturing Company.

The least number of putts honors went to Courtney Reeves, of Allied Paper. The high gross score, a dubious honor that, nevertheless, means a prize, went to E. J. Schmidt, Jr., of Parker, Thomas & Tucker. The low net foresome consisted of Jack Hillyer, of Whitaker Paper; R. C. Johnson, of Northwest Paper; Warren Moore, of the Brown Company; and Mr. Henry, of the Mid States Gummed Paper. The high gross foresome was made up of Karl Becker, of Wheelright Paper; Charles Forrester, Al Redfield, of Munising Paper; and Elliott Fulton, of Blunden-Lyon Paper Company. The low score on the three holes was copped by Buzz Gibson, of Mosineee.

Among the visitors were Tom Salsman, Lou Sisson, Roger Little, of Dwight Brothers, and Alex Silman, of Allied, who came down from Kalamazoo to enjoy the frolic. The unusually large turnout encourages the boys to looking forward to quite an outing at Long Beach, Indiana, on June 18.

Chicago Paper Association Meets

The regular meeting of the Chicago Paper Association was held at the Bismarck Hotel, Chicago, on Tuesday evening, May 26. The discussion centered around the selling of genuine quality merchandise as compared to price selling, with little regard for the lasting qualities of the goods. William Chukerman, of J. Chukerman & Sons, Chicago wholesale paper firm, gave a most interesting discussion of selling quality merchandise as compared to price selling. The Chicago Paper Association is making a determined effort to raise the level of merchandising in the Chicago area and outspoken discussions of ways and means of doing this job are at all times encouraged. The association states that the only way to get a perfect understanding among all members as to the sales methods used is to make it possible for everybody to speak their minds about methods used.

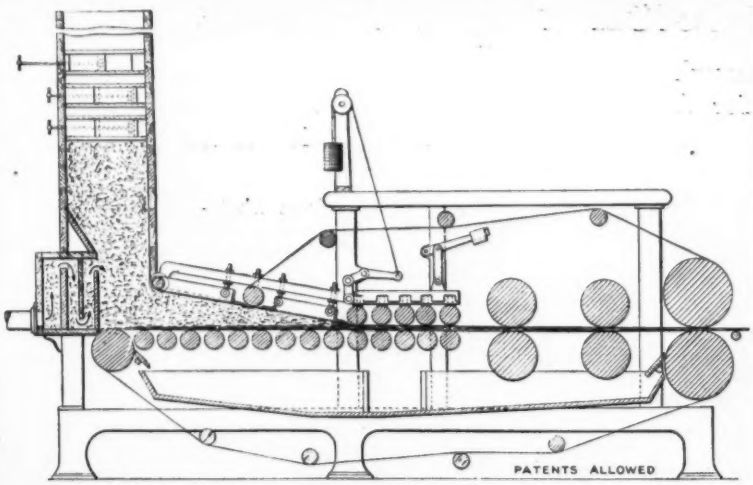
The general market, itself, came in for quite a bit of attention with association members reporting things pushing ahead slightly with the price situation on a more firm basis. The association took no action on the selection of an auditing firm to install cost programs in member firms; the decision will probably be made at the next meeting early in June. The plan to organize a salesmen's group to work with the parent association seems also to be deferred until a later date, although a definite need for this type of organization in the coarse paper field is said to be evident.

News of the Trade

A service inaugurated to help promote more printing business is featured in two mailing pieces from the Munising Paper Company, makers of Caslon Bond. A quantity of complete portfolios for answering inquiries resulting from the mailing pieces, are also furnished. The service is only obtainable through paper merchants handling Caslon Bond and povides an excellent tie-up for these representatives.

Number 9 of the series of most interesting direct mail pieces from Oxford Paper, sent out in Chicago from Bermingham & Prosser, 128 South Sangamon street, is headed "Oxford Papers and Style". A strikingly modern colored illustration features the excellent characteristics of Polar Coated, Ivory, for creating style in printing. The copy discusses effectively the subtle uses of style, appreciable to the eye "of discernment".

The "Written Word Exhibit", which was open in Chicago daily from April 23 to May 23, attracted the attention of many paper executives. The Exhibit bears out the idea that good writing is the fundamental advertising tool. The specimens, of course, drew additional attention to the proper uses of good paper in making for good advertising writing and, all in all, the paper business got another boost that should be most useful in the battle to extend the uses of good paper in all business lines.



300,000 Square Feet of ½" Board in 24 Hours

Likewise, proportional amounts of board up to 1½" thick are also easily obtained. The Downingtown Board Forming Machine is a radically different type, purposely designed for the CONTINUOUS forming of materials of a fibrous nature into boards of various thicknesses. Waste products from saw mills, steel mills, sugar mills and fibrous materials from other industries can be turned into a saleable product. We have a commercial size laboratory and can make sample board from your own waste, thus securing reliable information on the possibilities of your product.

Downingtown Manufacturing Co.
Downingtown, Pennsylvania

Boston Paper Market Conditions Improving

Although Consumers Are Generally Purchasing for Immediate Requirements Only, Demand for Various Standard Grades of Paper Is Fairly Active and a More Optimistic Feeling Is Developing—Summer Specialties Are In Excellent Request At Present

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., June 1, 1931.—Statements from wholesalers here indicate that the demand for paper has been fair, in the aggregate, during the last week. Buyers are placing their orders conservatively as a rule, purchasing for immediate requirements only, but a more optimistic feeling seems to be developing. Though hardly perceptible from week to week, the improvement in New England industry, generally speaking, is evident when conditions are compared with those prevalent some months ago, and is naturallly reflected in the paper business.

In some cases, business executives contemplate expanding their field by advertising, but say that their surplus does not yet warrant the expenditure. At the same time, printers are placing moderate-sized orders. Some new lines are being offered by fine paper manufacturers. Ledgers and bonds are moving fairly well. There is an average demand for greeting cards and material for this commodity.

Boston Paper Trade Outing

The Annual Meeting and Outing of the Boston Paper Trade Association will be held at the Hotel Preston, Beach Bluff, Swampscott, Mass., on Monday and Tuesday, June 8 and 9. The meeting on Monday, June 8, will include business session, outdoor sports and informal dinner in the evening. Tuesday will be devoted to the Association Golf Tournament which will be held at the Salem Country Club.

Among those proposed for election to membership are the following: William H. Anders, East Pepperell, Mass.; T. K. Davis, East Pepperell, Mass.; Carl E. Lincoln, North Leominster, Mass.; John R. Whitney, Springfield, Mass.; George E. Bardwell, South Hadley Falls, Mass.; Thomas Casey Greene, Boston, Mass.; Edward A. Sitzer, Lee, Mass.; and George W. Wise, Jr., Boston, Mass.

The program of outdoor sports at Swampscott is as follows: Six o'clock, salesmen must dig nowadays; 6.10, throw a little sand in customer's eye; 6.20 last hole with Sandy Burr; 6.30, catching horse shoe crabs; 6.40, throwing the elongated dumb-bell; 6.50, snappy three inning ball game on the beach; 7.20, chance of a lifetime; 7.25, shear strength. Prizes are offered in each event.

The committee is composed of Herbert C. Ham, chairman, W. J. McClellan, Nathan S. Clark, John H. Brewer, Willard H. Loud, R. F. Chapin, T. Charles Casey and F. W. Main.

The golf tournament at the Salem Country Club includes 18 holes handicap medal play, four-ball only, medal play, kicker's handicap and guests' handicap tournament. The prizes include the handsome silver golf championship cup offered by the Boston Paper Trade Association for first net, Class A.

The cup, for which this is the ninth year's play, must be won three times to became the permanent property of the winner. Meanwhile it will remain in the custody of the winner of the best net score each year until the succeeding year's play and until such time as some one shall have won it three times.

Provided two or more tie for any prizes the same must be played off (medal play) the afternoon of June 9. No player in handicap competition shall receive more than one prize. There will be opportunity for all to play the course throughout the day, tournament players having right of way.

The golf committee is composed of E. D. Bement, chairman, Norman Harrower, W. E. Porter, Jr., Nelson Freley, William N. Stetson, Jr., and "Don" Smith.

The officers of the club are Albert R. Smith, president; Charles A. Esty, first vice president; Frank B. Cummings, second vice president; Thomas H. Casey, treasurer, and F. Bendel Tracy, secretary, 10 High street, Boston.

Box Board Concerns Merge

There is much interest, especially on the part of the box board trade, in the announcement from the Wakefield Paper Box Company, Wakefield, Mass., that it has merged with Walter S. Barnes & Son, Inc., 789 Tremont street, Boston; C. W. Babcock & Son, Inc., 30 Newberne street, Somerville, Mass., and the Climax Paper Box Company., 20 Cottage Park avenue, Cambridge, Mass., owned by A. M. and H. A. Bond.

The Barnes firm is the oldest, having been established about sixty-five years ago. The new firm to be known as the Consolidated Paper Box Company, is capitalized for $200,000. The company has leased a warehouse on Winter Hill, Somerville, formerly occupied by the Derby Desk Company. The Wakefield plant will remove early in July.

Augustus A. Wiswall, of the Wakefield concern, is president; H. A. Bond and Frank Barnes, vice presidents; A. M. Bond, treasurer, and Frank Babcock, assistant treasurer and secretary. Employees of the Wakefield Company will be engaged by the new company. Arrangements are to be made for bus transportation between Wakefield and Somerville.

News of the Trade

Arthur W. Blackman, of the D. F. Munroe Company, president of the National Paper Trade Association of the United States, has returned from the Pacific Coast, where he has been in connection with business of the organization.

John Hazen, of the Hazen Paper Company, Holyoke, Mass., and William B. Shibla, of the Chicago Cardboard Company, recently called on the trade in Boston and vicinity.

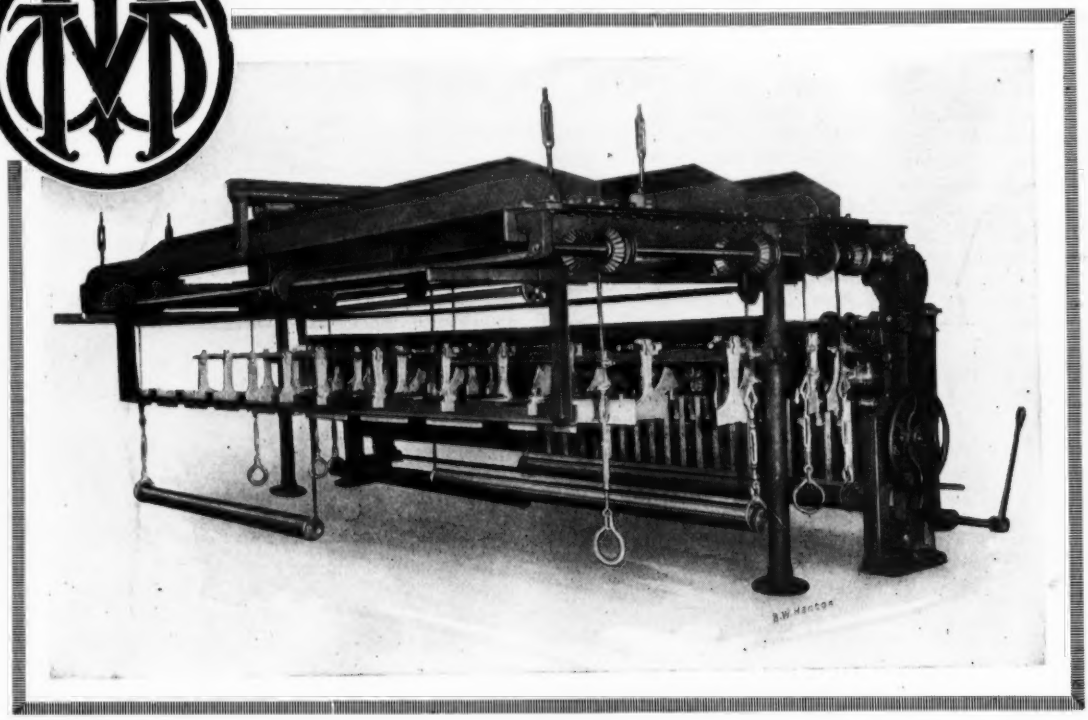
It is understood that the Boston office of Hollingsworth & Vose Company, at 333 Washington street, is to be given up, and that it will be removed to Walpole, Mass.

The International Paper Company has awarded, on a competitive basis, one of the largest fire insurance contracts ever closed in Boston, to Russell, Fairfield & Ellis. Coverage on its industrial properties in the United States and Canada is understood to be in excess of $150,000,000.

Storrs & Bement Company, and the Paper House of New England, are distributors of two new papers, made by the S. D. Warren Company, Cumberland Mills and Gardiner, Me., with executive offices in Boston. They are Warren's New Lustro Brilliant-Dull in white only and Warren's New Cumberland Dull, in white and ivory papers produce half-tones without distortion. Weights of all sizes are on 1,000 sheet basis.

222" 9-PILE
M. & W. DUPLEX LAY BOY

Built for
Southern Kraft Corp.
PANAMA CITY, FLORIDA



Enlarging a "Bottle Neck"

WHERE sheets from a paper cutter are piled by hand, the limiting factors in the machine's output are the dexterity of the girl at the laying table, and the time that cutter is actually operated. Not only does the girl slow down the cutter when paper is running badly; but when she is tired the sheets are badly laid and sometimes must be scrapped. Also, it is necessary to shut down the unit periodically to remove paper from the pile, which when hand laid is only 9 inches high.

By putting Moore & White Lay Boys to work on your cutters, not only will you save a large part of the wages paid for a purely mechanical operation, but you will enhance the returns from your investment in the cutters.

Spoilage will be less.

Cutters can be operated more continuously, thus increasing total production.

Can be attached to any make of cutter.

Use them for waxed glazed and curly papers.

Write us for further details.

"M & W" Equipment Is Always Dependable In All Ways

Economically the Need of the Day in Your Mill

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Established 1885

PAPER MACHINE BUILDERS

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Ontario Paper Mills Maintaining Activities

Several Manufacturers Report Orders Ahead for Book Papers, While Fair Tonnages of Bonds, Ledgers and Writings Are Moving Into Consumption—Coated Paper Plants Moderately Active—Board Mills Operating At 65 Per Cent Capacity

TORONTO, Ont., June 1, 1931.—May closed with a rather low average of business in wholesale paper circles in Ontario and with sales slightly down from the total of the preceding month. Sales of a few lines of fine papers kept up fairly well but the coarse paper market was very dull, with no indication of any immediate improvement. Business is by no means evenly distributed and some houses report quite a fair turnover during the past several weeks, with others complaining of a decided dullness in trade. In the majority of cases, however, it would appear as if sales were of the small order variety and even these require considerable digging to procure.

In no branch of the wholesale paper industry is business coming in any great volume nor is it easy to land. This is due to the continued low ebb of business generally throughout the province, although it must be said that business conditions are showing some signs of improvement. Making allowances for this, retail merchants and other consumers of paper are not making very generous requisitions for either fine or coarse paper.

Manufacturing activities are keeping up quite well, although some of the mills are having difficulty in keeping their machines busy. Several of the plants report some orders ahead for book papers and fair tonnages of bonds, ledgers and writings are being disposed of. From lithographing, catalog and other houses specializing in fine papers is coming a fair call for coated stock and the mills manufacturing it are fairly busy, but only on current orders.

None of the consuming sources are stocking paper and in the case of the printing trade, while they are using a fair amount of stock, there is a tendency to put off ordering supplies until the job is locked up. The paper converting trade and the envelope manufacturing plants are running lightly. This is not the season for full operation of the paper box plants and as a result the board mills could handle a good deal more business than they are getting, although they are busier than they were a couple of months ago. They are operating at around 65 per cent capacity.

The Tariff and Paper Box Industry

A curious situation has arisen with regard to the reentry into Canada of some container materials manufactured in the Dominion. Under the present customs tariff there is a clause which re-admits Canadian-made paper boxes, etc., free of duty, providing no work has been done upon them. Some of these boxes sent from Canada are returned to this country as containers of various imported articles. The contents come under various customs classifications. The boxes themselves, are of course, shipped in knocked down form, usually partly stitched or glued and requiring only to be squared up and stapled or sealed.

It is obvious that the container is precisely the same material as was exported, and that the operation of setting up the box is not a manufacturing operation, while the result of the work is not a new product which is subject to duty. Without these simple operations the box, of course, is useless and the charging of duty on the reentry of such a box unduly penalizes the Canadian manufacturer and workmen who would otherwise produce more boxes for export sale, and also, the consumer of the contents of the boxes, who has no interest in the container.

The Canadian Paper Box Manufacturers' Association are taking the matter up at Ottawa and are pointing out that the corresponding United States tariff item specifically states and enumerates certain classes of containers that can come in free whether or not a few labor charges have been incurred in handling the articles.

Market for Fruit Wrappers

Fruit wrappers from Canada, and especially from British Columbia, may now be used more extensively than ever before in Australia, as the result of a visit to Canada of W. Ranger, manager of the Committee of Direction of Fruit Marketing, of Queensland, Australia. Mr. Ranger stated that, while his primary object in coming to Canada was to try and find a market for Australian pineapples, he had become acquainted with fruit wrappers since arriving in the Dominion. At present all the fruit wrappers used in Queensland were being imported from Sweden but since arrival in Canada it had been suggested to him that this product may be just as well supplied from the Dominion as from Sweden. The Australian people wanted to deal with Canada as much as possible, he declared, in order to encourage Canadians to buy fruit and other products from Australia.

Problems of Paper Men and Printers

Addressing a dinner meeting of the Toronto Typothetae at the King Edward Hotel on problems confronting the paper makers and the printing trade on May 28, Harold Crabtree, president of the Howard Smith Paper Mills, declared that the trouble with the paper industry in Canada today was lack of tonnage. This lack of volume was responsible for failure to get down costs to a point where prices could compete with those of the United States market.

In spite of this, however, Canadian mills were turning out as many lines proportionately to population as the United States, where the consumption of fine papers was 23⅓ lbs. per capita per annum as compared with 6½ lbs. in this country. Over two million dollars worth of unprinted matter were coming into Canada and if the Government granted double the present tariff protection paper mills would still show losses on the small runs they were compelled to make.

Mr. Crabtree declared that in the efforts being put forth by the mills to increase tonnages and volume the printing trade, by closer co-operation with the paper companies, could do much to improve the economic conditions existing in both these industries. He urged greater use of the facilities offered by such organizations as the Typothetae, Canadian Pulp and Paper Association and the Canadian Paper Trade Association, particularly in campaigns directed toward the greater use of Canadian-made paper and printing of domestic origin.

Dealing with the problems of stretching and curling papers reaching the printer from the mill, the speaker urged the necessity of having comparatively the same temperature in the press room of the printing plant as maintained in the paper mills if the problems of humidity were to be overcome. Among other speakers was Fred W. Halls, of the

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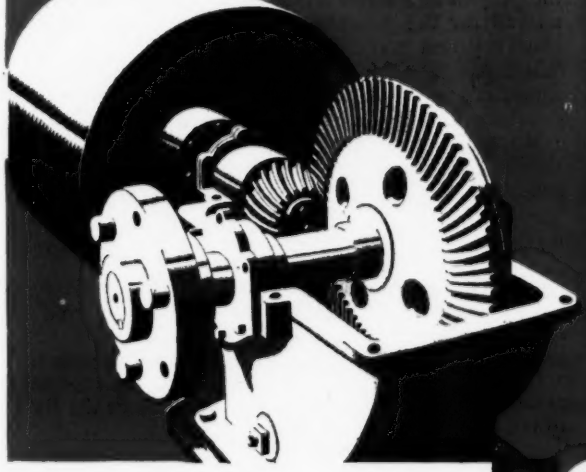
...and SUCH Control

SIMPLE



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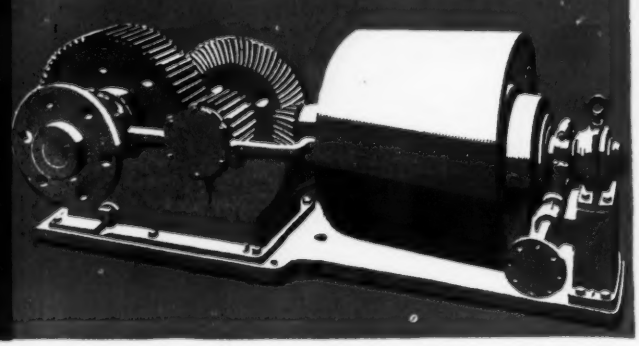


***Compact*— requiring but one-quarter the floor space of old type drives of equivalent power.**

***Vibrationless*— minimizing broke and wear on wires, felts and rolls.**

***Full Lubrication*— gears completely immersed in oil, with splash feed to all contacts.**

***Velvety Starting*— through positive clutches of either magnetic or multiple disc type.**

***Anti-friction Bearings; Sturdy Stands;* and *Efficient Performance* that in one representative installation has reduced maintenance costs $1650 a year per machine.**

Quickly installed as units or complete systems, without interrupting production. Write for full details.

The Bagley & Sewall Co.

Watertown, N.Y.

57

Fred W. Halls Paper Company, who spoke for the paper merchants.

Safety Matters in Paper Mills

In spite of the fact that accident prevention is conducted in all the paper mills operating in Ontario in the jurisdiction of the Ontario Pulp and Paper Manufacturers' Association, on a sanitary and statistical basis, there still happens the stupid unfortunate accident usually arising from the fact that the man injured has disobeyed instructions and his foreman faced with a situation in respect to which he had no previous experience, and had no right to be there, points out the secretary-engineer, A. P. Costigane.

A concrete case was cited of an accident in one of the mills—a member of the safety association—recently. Investigation of the accident proved that the man had no right to be where he was or of operating the equipment in the operation of which he was injured. It was a matter for congratulation that the Workmen's Compensation Board viewed the matter seriously and refused compensation or medical aid of any kind. It was pointed out that employees, by taking such illegitimate risks and disobeying instructions, will face either reduced compensation or entire disallowance.

Notes and Jottings of the Trade

Notices have been sent out calling the summer meeting of the Technical Section of the Canadian Pulp and Paper Association for Montreal on June 18 and 19.

George Carruthers, president of the Interlake Tissue Mills, Ltd., head office Toronto, has gone on an extended trip through Western Canada to get a close-up of business conditions in the western provinces.

W. H. Smith, of South Africa, well known as a paper authority, has sailed for Europe after having surveyed the Canadian paper field.

J. B. Larkin, of Kilgours Ltd., paper bag manufacturers, Toronto, has returned from a business trip to St. John, N. B. He was accompanied by E. G. Rolph, publicity manager of the Howard Smith Paper Mills.

John F. Ryan, who for some years has been general superintendent of the Ontario Paper Co.'s plant at Thorold, Ont., was recently tendered a banquet at the Welland House in St. Catharines, Ont., on the occasion of his retirement. Some fifty members of the executive staffs of the company and of the Tonawanda Paper Company were present and during the evening Mr. Ryan was presented with a handsome console radio. A. A. Schmon, vice-president of the Ontario Paper Company presided over the gathering. Among the speakers was J. A. Devine, Mr. Ryan's successor.

A number of the Toronto paper wholesalers were present at a dinner meeting of the Toronto Club of Printing House Craftsmen in the Royal York Hotel, when various matters of interest pertaining to both the paper and printing trades were discussed.

Spaulding Co. Issues Bonds

[FROM OUR REGULAR CORRESPONDENT]

PORTLAND, Ore., May 23, 1931.—Chas. K. Spaulding, president of the Spaulding Pulp and Paper Company, Newberg, Ore., has announced an issuance for public sale of $300,000 of first mortgage five-year, 6½ per cent bonds on the company, the new issue to be ready in June. Proceeds of the sale are to be used for the retiring of outstanding current debts, for additional working capital and to provide additional machinery. Indication was given that the capacity of the mill might be increased from 55 tons daily to 75 tons.

Reforestation Programs

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., May 20, 1931.—Reforestation programs have already been launched in a number of Northern New York centers and indications are that the work will be conducted on a more extensive scale than last year. Announcement was made this week in Jefferson county by the county forester that about 900,000 trees are to be planted on five tracts. Plans call for the planting of several hundred acres on tracts in the towns of Champion, Lorraine, Mannsville and Worth. It was also learned that the board of supervisors has decided to adopt the policy of planting 1,000,000 trees each season starting next year. About 90,000 acres of idle land in the county are now available for reforestation and the spring plantings this year are expected to account for over 1,000 acres. Among the species to be planted are Norway spruce, white cedar, European larch, poplars, white pines and red pines.

The reforestation committee in Lewis county has just completed the reforesting of over 200 acres of waste lands in the town of Lyonsville. A large force was employed on the project and about 345,000 trees were laid out. Plans all call for the planting of 500,000 trees in the town of Pinckney and about 75,000 on a tract in New Bremen. Word has been received from the Conservation Commission that Lewis county is doing more work for the amount expended than any other county in the state. An appropriation of $3,000 was recently approved by the board of supervisors to carry on reforestration and a similar sum has been granted by the state.

Glazed and Fancy Paper Men Meet

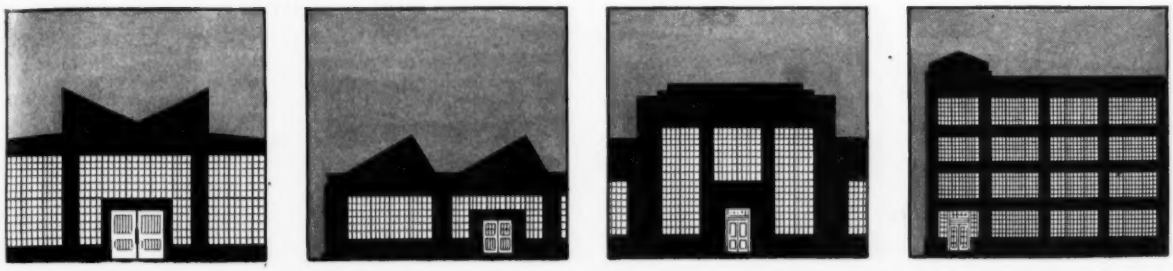
The regular quarterly conference of the Glazed and Fancy Paper Manufacturers Association was held at the Hotel Commodore, New York City, May 19. At this meeting it was voted to accept the proposed plan to have a Distributors' Division and the executive committee was authorized to work out the details and change the By-Laws to make this plan effective.

Reports were received from the social committee, the quantity schedule committee, the sales promotion committee and the conference committee who met with the Paper Box Manufacturers' Association committee. Secretary L. I. Houghton reported that shipments since January, 1931, were showing improvement and were slightly ahead of a year ago for the same months. The members present reported that they were having no difficulties as the result of the recent decision to standardize winding papers coated side out. One company has already issued complete sample books according to the newly adopted size of 5 x 8. Other members present said that they were in the process of doing this also.

It was voted to hold the next meeting in Providence, Rhode Island, Tuesday, October 6. A. G. Post of the National Coated Paper Corporation and J. R. Metz of the Metz Paper Company were appointed as a committee to assist in making the arrangements.

New Kromepatch Folder Issued

E. J. Lavino & Co., of Philadelphia, Pa., has just issued an attractive six page folder, describing Kromepatch, the multi-bond chrome cement, which is used in all industries. The folder shows how a well-known Eastern paper mill gets 400 per cent longer life by laying up boiler arches with Kromepatch and, in addition, prolongs the service life of refractory lining by laying all brick in Kromepatch cement.



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A Plant of ELEKTRO-DESIGN provides highly *desirable long spans* at low cost—with fewer component steel parts.

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A Plant of ELEKTRO-DESIGN may be *welded, rivetted* or *bolted* in the field.

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THE AUSTIN METHOD

Memo to The Austin Company, Cleveland: ☐ Our door is open to new ideas. Without obligation, we would like to know more about the $ and ¢ savings and advantages of ELEKTRO-DESIGN. We are interested in a_____ project containing approximately_____ sq. ft. Name and Title_____ Firm_____ City_____ PTJ 6-4-31

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New York Trade Jottings

Dill & Collins Company, with New York offices at 11 West 42nd street, have just issued an indexed booklet containing trade customs, grades, sizes, weights, substances, bulks, code words and sheets per case.

* * *

O. F. Swanson, sales manager of J. Anderson & Co., and the Pulp and Paper Trading Company, with headquarters at 31 East 40th street, New York, has just returned from a two months business trip, during which he visited leading paper mills in the Middle West and also the New England States.

* * *

Wilson Paper Stock Company, Inc., with office and packing plant at 452-454 West 19th street, New York, announce that Emanuel Frost and Morris Kay, of the Interstate Mill Supply Company, Inc., have been elected vice-president and secretary respectively of the Wilson Paper Stock Company, Inc., having purchased a half interest in the organization.

* * *

The New York Post Office, in a recent bulletin, protests against the use of unnecessarily large envelopes for mailing. The Post Office states that envelopes exceeding four by nine inches are too large to be accommodated in the separating cases used in post offices and railway postal cars, and must, therefore, be given special treatment, which takes both time and labor. The Post Office suggests the desirability of having envelopes conform to standard sizes.

* * *

Miss Winifred A. Bird, general manageress of the Eynsford Paper Mill, Kent, England, now visiting this country, is a guest of the Japan Paper Company. Miss Bird is a London City and Guilds certificated paper making technologist, with an experience of twenty-two years at Eynsford. Her position is unique in that she is the only woman in the world in control of a paper mill. The Eynsford mill was established in the latter part of the 17th century. Its hand made papers are known the world over as evidenced by its mould-room, where there are collected over one thousand different water marks for papers used in various parts of the world.

* * *

J. A. C. Kavanagh, director of the Statistical Department of the American Paper and Pulp Association, was the guest speaker at the regular weekly meeting and luncheon of the Eastern Division of the Salesmen's Association of the Paper Industry, held at George's Restaurant, New York, last Tuesday. Mr. Kavanagh discussed recent trends in the paper and pulp industries and their particular application to the work of the members of the Salesmen's Association and illustrated his address with a number of interesting and instructive charts. There was an excellent attendance of members and trade association officials and the spirited discussion which followed Mr. Kavanagh's address showed the appreciation of those present in his statistical survey.

Swedish News Print Production

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 3, 1931.—Newsprint production in the Swedish paper mills during the first quarter of this year totaled 42,333 metric tons. Production during the month of March was somewhat lower than during the two preceding months, totaling only 12,345 tons as against 15,252 tons in the month of February and 14,736 tons during the month of January.

Dorr-Oliver Corporation Formed

John Van Nostrand Dorr and Edwin Letts Oliver have announced a union of the businesses and assets of the Dorr Company and Oliver United Filters Inc. This union was brought about on June 1 by the formation of a new company, to be known as Dorr-Oliver Corporation, under the joint management of Messrs, Dorr and Oliver.

The Dorr-Oliver Corporation will function through its two, wholly-owned operating units, a new Dorr Company Inc., and a new Oliver United Filters Inc. Mr. Dorr and Mr. Oliver will head their respective companies and with the aid of their present executive and technical staffs, will continue on behalf of Dorr-Oliver Corporation, the Businesses which they have individually initiated, organized and expanded so successfully in the past.

The businesses of the two uniting companies are of long standing and complementary. The Dorr Company occupies a leading position in the fields or agitation, classification and sedimentation through its equipment, built up around the original inventions of its founder, John V. N. Dorr; and the Oliver United Filters Inc. occupies a similar position in the field of filtration through the inventions of Edwin L. Oliver and Mr. E. J. Sweetland. The union should, therefore, make it possible to offer to industry a more complete line of equipment and engineering service than either company could hope to offer individually.

The growth and success of the Dorr and the Oliver United businesses have been due, to a great extent, to constructive policies of constant development and research and a broadening of fields of usefulness in anticipation of the constantly changing needs of the basic industries which they serve. Their fields are related so closely from a technical standpoint, that the joint use of technical information and the carrying on of joint research and development is expected to result in more effective development and improvement of the equipment and processes which they have contributed to industry.

Both companies have built up technical staffs and manufacturing facilities at strategic locations throughout the world for the carrying on of their businesses which have grown to international proportions. The common use of these established facilities should give fuller, prompter and more efficient service to clients.

The two companies have frequently cooperated on the same projects, and, in many instances, the equipment of both is used at different stages of operation in the same plant. The founders of both companies have enjoyed a friendship extending over almost a quarter of a century and the long acquaintance of many members of the staffs has prepared them for effective cooperative effort.

Under the union of interest now effected, there will be preserved to clients the close relations which they now enjoy with the respective staffs of the old organizations.

Norwegian Pulp Shipments Decline

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., May 27, 1931.—Norwegian shipments of wood pulp, fine printings and boards have been most seriously affected by the present depression in trade and industry according to a report to the Department of Commerce. With the exception of bleached sulphite, which shows practically no change compared with last year, exports of these products have declined between 10 and 30 per cent, the former figure representing the reduction in ground wood shipments and the latter in boards. Unbleached sulphite dropped off by 18 per cent and fine printings and writings by 16 per cent.

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SOME BAKER PRODUCTS

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- Hydraulic Automatic Magazine Grinder
- Chippers—2, 3, or 4 Knife
- Patent Combined Chipper and Crusher
- C. Bache-Wiig Barking Drum for 4 foot Wood
- Baker Stainless Steel Valves and Digester Fittings
- Winder Shaft—Patent Split Type
- Pulp Refiner—Single or Twin Type
- Wet Machines and Deckers
- Vertical and Horizontal Baker Centrifugal Pulp Screens
- Horizontal Rotary Screens
- Centrifugal Pumps in Bronze, Iron and Hard Lead
- Bronze and Hard Lead Valves, Pipe and Fittings for Sulphite
- Steel and Semi-Steel Valves for Soda and Sulphite
- Winders, Reels, Fibre Crossers

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction News

Fredericksburg, Va.—The Sylvania Industrial Corporation, 122 East 42nd street, New York, has asked bids on general contract for proposed new addition to mill at Fredericksburg, for large increase in present capacity of transparent cellulose paper specialties sold under the trade name of "Sylphrap." Work will consist of three new one- and two-story additions, structural steel and brick, estimated to cost close to $1,000,000 with machinery. A list of equipment to be installed has been arranged. It is expected to award general contract so that erection can begin in June. The Ballinger Company, Twelfth and Chestnut streets, Philadelphia, Pa., is architect and engineer. H. H. Replogle is vice-president.

Camden, N. J.—The E-Z Set Up Folding Box Company, recently organized by Wilbur N. Comley, Westville, N. J., and associates, with capital of 2500 shares of stock, no par value, is planning early operation of local plant for manufacture of paper boxes and containers. P. Mason Fox, Woodbury, N. J., is interested in new company.

Panama City, Fla.—The Southern Kraft Corporation, an interest of the International Paper Company, 220 East 42nd street, New York, has recently begun production at its new local mill, which has been in course of erection for a number of months past. Employment is now being given to a working force of about 600 persons for the manufacture of kraft paper, and it is expected to hold to this basis for an indefinite period. The company is said to have booked some sizeable business.

Childs, Md.—The Maryland Paperboard Company, 7 St. Paul street, Baltimore, Md., is pushing its alteration and improvement program on former local mill of the Marley Paper Manufacturing Company, and expects to have the unit ready for service within sixty days or before. The plant will be given over to the production of paperboard specialties under the new ownership, and machinery is being arranged for large output. Walter G. Leimbach is secretary and treasurer, in charge.

Los Angeles Cal.—The Pioneer Paper Company has been making improvements in machinery and equipment at its plant on South Alameda street, and has expended about $50,000 in new machinery for the production of a new roofing paper which it is now marketing. Production in this line, known as a "color ensemble roof," is scheduled on a quantity basis for an indefinite period. The mill is also running on a sizeable output for building and sheathing papers, as well as regular roofing papers. Employment is being given to about 250 operatives on a capacity schedule. J. H. Plunket is general manager.

New York, N. Y.—The Paper Sandal Manufacturing Company, care of William M. Schwartz, 19 West 44th street representative, recently organized with a capital of $20,000, plans operation of a local plant for the manufacture of a line of heavy paper specialties. Oscar Kaufman is one of the incorporators of the new company.

New Brunswick, N. J.—Following the appointment of Clifford I. Voorhees, New Brunswick, as receiver for Janeway & Carpender, Inc., with mill in the Highland Park section for the manufacture of wall papers, it is proposed to continue production at the plant for an indefinite period. Output will be on a curtailed schedule for the present.

Whitehall, N. Y.—The Pretoned Wallboard Corporation, lately organized, is now occupying a mill on Boardman street, formerly a portion of the plant of the Champlain Silk Mills, and will use for the production of wallboard specialties. An extensive capacity is planned, with employment of sizeable working force.

Montreal, Que.—The Kander Paper Stock Company, Ltd., is planning rebuilding of portion of storage and distributing plant at 76 Prince street, recently damaged by fire. An official estimate of loss has not been announced.

Oneida, Ont.—The Canadian Gypsum Company, Toronto, Ont., has plans under way for the construction of a new wallboard mill at Oneida, consisting of several units, with warehouse and boiler plant, reported to cost close to $100,000, with equipment. The new mill will be on the line of the Canadian National Railway, and a siding will be built to the plant. The company is also projecting plans for another wallboard mill at Willow Grove, Ont., to cost approximately a like amount. D. R. Rodgers is chief engineer.

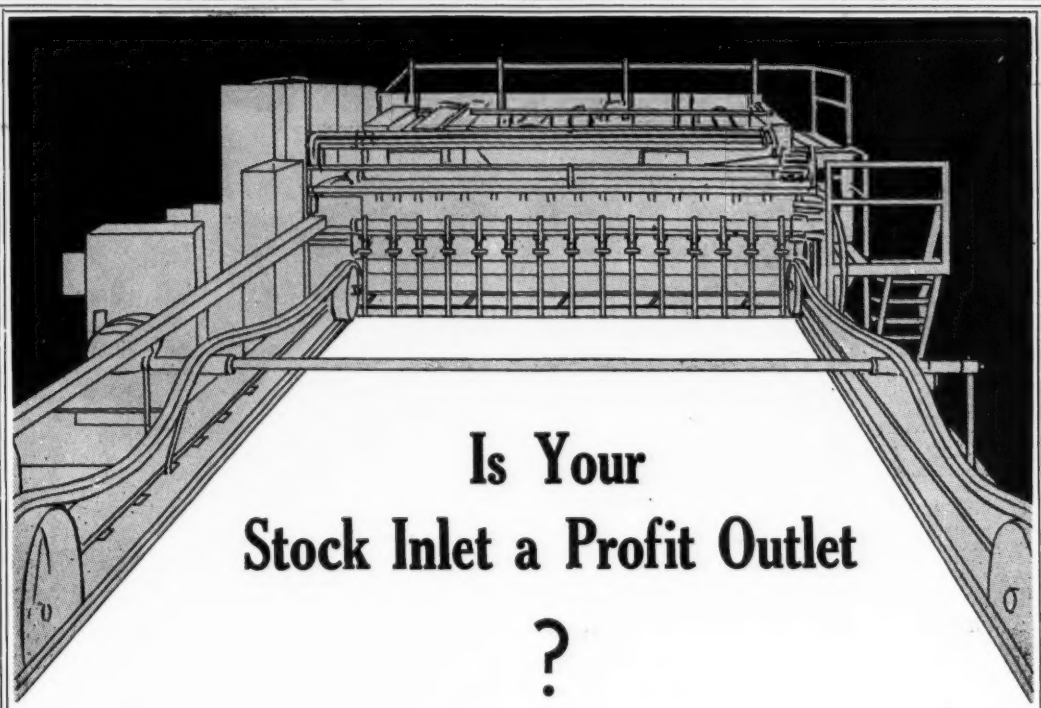
Fitchburg, Mass.—Crocker, Burbank & Co., Westminster street, have begun work on a new addition to power plant for mill service, one-story, brick, for which general contract recently was let to the Proffit & White Construction Company, 1137 Main street, Leominster, Mass. An award for piping has been given to the Jennison Company, 17 Putnam street, Fitchburg. The new unit is reported to cost more than $40,000, with equipment and will be pushed to early completion. Francis J. Sill, Westboro, Mass., is engineer, in charge.

Priest River, Idaho—The Pacific States Pulp and Paper Company, Spokane, Wash., is said to have plans maturing for the construction of its new pulp mill at Priest River, Idaho, projected for some months past. The plant will consist of a group of buildings with power house, pumping plant, machine shop and auxiliary mechanical units, and is reported to cost close to $1,000,000, with machinery. It is understood that the company has arranged for financing for the project. Charles W. Beardmore is president.

New Companies

Menasha, Wis.—The Wood Fibre Plug Company has been incorporated to operate a local plant for the manufacture of wood fiber products. The incorporators are Thorpe L. and W. L. Edmonds, 604 Grant street, Wausau, Wis.

Brooklyn, N. Y.—The Drug Package Corporation has been incorporated with a capital of $10,000, to manufacture paper boxes and containers. A. S. Perlstein, 66 Court street, Brooklyn, is one of the incorporators, and representative.



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Your slices may be efficient so far as mere mechanical operation is concerned, but that does not necessarily make them *profitable* pieces of equipment.

Poor uniformity means lost sales. Lost sales slash profits. Poor formation means inferior quality, rejects and breaks. This increases per ton costs. It also has a detrimental retro-active effect upon the productive efficiency of other stock-preparing machinery.

Now, more than ever, you need an efficient, low cost mill. Profits depend on it; conditions demand it. If you do not have the most modern, improved inlet equipment—write the Valley Iron Work Company, Appleton, Wisconsin for an intelligent, technical analysis of your problems.

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VALLEY

Equipment for Paper and Pulp Mills

Plant: Appleton, Wis.
New York Office: 350 Madison Ave.
Canadian Representatives: Pulp & Paper Mill Accessories, Ltd., Montreal, Canada

PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

For the Month Ending March 31, and for the Three Months Ending March 31, 1931 Compared with Corresponding Month of Previous Year

IMPORTS—PAPER

	March				Three Months Ending March 31			
	1930		1931		1930		1931	
PAPER AND MANUFACTURES	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
	.....	$12,410,732	.....	$10,732,305	.....	$36,128,493	.....	$31,523,391
Printing paper—								
Standard news print ..... lbs...free	374,998,672	10,871,190	338,690,360	9,550,534	1,080,513,819	31,472,278	985,595,607	27,844,492
Imports from:								
Finland ..... lbs.	8,690,764	200,409	7,523,941	164,802	25,253,890	578,801	18,290,857	427,060
Germany ..... lbs.	2,394,880	58,469	4,291,433	91,298	5,493,990	135,968	11,791,244	256,499
Norway ..... lbs.	2,553,404	61,945	6,123,767	154,046	3,978,672	94,792	12,948,739	327,732
Sweden ..... lbs.	15,873,220	398,986	5,293,226	108,673	41,395,570	1,038,615	29,514,175	676,898
Canada ..... lbs.	337,827,343	9,941,371	315,395,219	9,030,201	962,671,201	28,433,027	870,136,992	24,984,793
Newfoundland and Labrador ..... lbs.	7,659,061	210,010	.....	.....	41,720,496	1,191,075	42,843,628	1,169,780
Other countries ..... lbs.	.....	.....	62,774	1,514	.....	.....	69,972	1,730
All other, n. e. s. ..... lbs...dut.	333,267	15,884	140,536	4,282	630,326	29,619	522,367	18,627
Greaseproof and waterproof papers .... lbs...dut.	129,919	48,184	19,200	4,082	464,519	155,754	116,502	24,101
Kraft wrapping paper ..... lbs...dut.	861,168	35,311	205,216	8,685	2,469,148	101,116	789,947	32,967
Other wrapping paper ..... lbs...dut.	203,431	11,714	460,445	14,772	598,387	35,727	835,022	37,138
Writing and drawing paper, etc. ..... lbs...dut.	206,801	54,128	285,218	50,817	931,668	242,888	636,418	127,217
Writing paper and envelope combinations ..... dut.	.....	.....	.....	16,539	.....	.....	.....	40,706
Surface-coated paper ..... lbs...dut.	195,957	76,172	93,066	42,440	602,295	228,019	240,622	110,007
Uncoated paper, decorated or embossed. lbs...dut.	.....	.....	7,324	1,801	.....	.....	41,996	9,370
Tissue and similar papers ..... lbs...dut.	441,377	189,190	.....	.....	1,182,479	590,837	.....	.....
Weighing not over 6 pounds to the ream ..... lbs...dut.	.....	.....	138,521	91,238	.....	.....	335,699	241,365
Other ..... lbs...dut.	.....	.....	50,223	24,557	.....	.....	157,984	72,323
Paper boards, n. e. s.—								
Pulp board, in rolls ..... lbs...dut.	4,293,136	100,471	2,734,496	61,473	12,626,631	303,500	7,514,048	165,435
Paper board, pulp board, n. e. s., and card board ..... lbs...dut.	1,941,135	47,730	1,475,141	36,950	4,844,503	116,380	3,751,810	87,500
Leather board, test and wall board .. lbs...dut.	76,746	4,603	161,461	6,963	382,268	19,474	373,129	18,666
Cigarette paper, cigarette books, and covers ..... lbs...dut.	1,114,327	398,701	1,797,475	453,752	3,135,112	1,103,735	6,295,536	1,624,703
Hanging paper (wall paper) ..... lbs...dut.	241,327	61,718	198,224	45,719	1,003,079	254,029	592,809	141,013
Duplex decalcomania paper, not printed. lbs...free	32,008	7,390	43,471	9,483	154,156	36,469	103,773	22,806
Paper boxes ..... dut.	.....	106,920	.....	78,349	.....	340,094	.....	22,798
Papier-mâché and pulp manufacturers, n. e. s. ..... dut.	.....	29,683	.....	28,338	.....	217,532	.....	105,925
All other paper and manufactures ..... dut.	.....	351,743	.....	201,531	.....	881,042	.....	576,232

WOOD PULP

Mechanically ground wood pulp ..... tons..free	24,161	708,416	.....	.....	84,454	2,413,335	.....	.....
Unbleached ..... tons..free	.....	.....	12,884	299,341	.....	.....	37,692	969,823
Bleached ..... tons..free	.....	.....	198	4,621	.....	.....	2,221	55,097
Sulphite wood pulp ..... tons	69,794	4,277,363	59,957	3,238,238	291,512	17,002,273	238,134	12,091,116
Unbleached ..... tons..free	40,736	2,106,235	30,615	1,353,321	203,890	10,531,813	153,714	6,873,141
Bleached ..... tons..free	29,058	2,171,128	29,342	1,884,917	87,622	6,470,460	84,420	5,217,975
Imports from:								
Finland ..... tons	7,328	370,370	9,413	424,616	26,421	1,352,104	22,523	1,007,642
Germany ..... tons	9,645	662,669	6,877	417,592	23,291	1,583,594	15,083	911,064
Norway ..... tons	4,446	293,272	6,994	359,738	16,090	1,074,636	13,610	710,839
Sweden ..... tons	12,564	722,921	7,302	375,350	120,616	6,542,495	110,046	5,075,886
Canada ..... tons	34,582	2,161,246	26,623	1,538,822	101,097	6,240,956	69,715	4,056,498
Other countries ..... tons	1,229	66,885	2,748	122,120	3,977	208,488	7,157	329,187
Sulphate wood pulp, unbleached (kraft pulp) ..... tons..free	20,242	1,058,893	9,545	421,851	108,478	5,490,310	71,903	2,944,056
Imports from:								
Finland ..... tons	5,116	213,877	1,902	62,547	11,897	537,248	3,945	129,414
Norway ..... tons	847	49,370	400	15,335	3,611	180,153	2,417	82,405
Sweden ..... tons	5,922	294,707	4,018	147,681	69,507	3,357,734	54,376	2,035,201
Canada ..... tons	7,743	473,785	3,001	190,129	22,120	1,351,959	10,725	684,956
Other countries ..... tons	614	27,154	224	6,159	1,343	63,216	440	12,080
Sulphate wood pulp, bleached ..... tons..free	734	55,515	3,044	270,092	2,943	239,088	12,598	783,450
Soda pulp ..... tons..free	.....	.....	362	18,504	.....	.....	1,003	54,093
Other pulp ..... tons..free	411	30,474	38	3,781	985	73,496	38	3,781

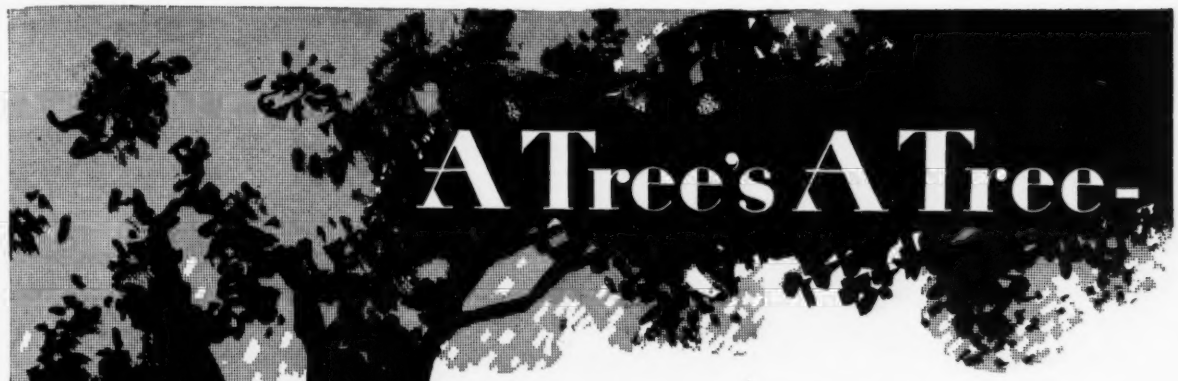
CRUDE PAPER STOCK

Rags for paper stock ..... lbs...free	33,066,196	693,327	13,290,740	152,534	98,553,531	1,988,553	27,734,537	392,887
All other paper stock ..... lbs...free	23,390,322	328,664	9,095,148	149,094	61,298,974	970,977	30,385,328	454,020

CHEMICALS AND OTHER PAPER MAKERS' MATERIALS

Colors, dyes, stains, color acids, and color bases, n. e. s. ..... lbs...dut.	598,951	679,138	517,287	623,095	1,440,309	1,558,824	1,077,567	1,280,174
Imports from:								
Belgium ..... lbs.	6,356	7,485	6,052	7,170	13,462	14,784	12,427	14,391
France ..... lbs.	458	537	30,144	36,092	2,395	4,573	34,872	48,034
Germany ..... lbs.	373,873	413,908	269,389	300,130	952,160	1,029,412	606,896	683,029
Italy ..... lbs.	.....	.....	180	344	.....	.....	11,058	10,388
Switzerland ..... lbs.	207,611	248,547	186,002	255,109	448,027	487,175	371,550	481,442
United Kingdom ..... lbs.	4,807	4,975	19,786	17,609	13,231	13,232	28,937	28,309
Other countries ..... lbs.	5,846	3,686	5,734	6,641	11,034	9,648	11,827	14,581
China clay or kaolin ..... tons..dut.	22,533	235,520	9,136	82,462	74,415	788,409	37,752	344,853
Casein or lactarene ..... lbs...dut.	2,683,273	307,560	203,696	9,134	7,177,730	871,987	1,374,996	67,609

(Continued on page 36)



A Tree's A Tree-

It's Control that Determines the Quality of Pulp You Get–

WHEN two mills take similar wood and one gets more stock of higher quality than the other, there's always a reason.

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PAPER AND PAPER STOCK IMPORTS AND EXPORTS OF THE UNITED STATES

(Continued from page 34)

EXPORTS—PAPER

	March 1930 Quantity	March 1930 Value	March 1931 Quantity	March 1931 Value	Three Months Ending March 31 1930 Quantity	Three Months Ending March 31 1930 Value	Three Months Ending March 31 1931 Quantity	Three Months Ending March 31 1931 Value
PAPER AND MANUFACTURES	.....	$2,860,734	.....	$2,090,714	.....	$8,622,495	.....	$5,951,183
Printing paper—								
News print paper ..... lbs.	1,627,016	78,187	1,242,305	44,550	6,907,686	273,544	4,429,945	153,966
Exports to:								
Europe ..... lbs.	188,092	12,708	39,163	1,854	654,176	38,163	501,691	15,969
Canada ..... lbs.	8,099	391	5,741	300	17,351	763	9,482	412
Central America ..... lbs.	174,442	6,019	107,000	3,412	548,370	19,672	341,075	11,626
Cuba ..... lbs.	259,684	8,913	152,613	6,054	888,123	35,383	881,296	36,223
South America ..... lbs.	253,892	9,931	188,252	6,355	1,934,211	63,262	458,611	15,729
China, Hong Kong, and Kwantung... lbs.	384,551	25,754	.....	.....	786,670	40,412	150,267	3,813
Philippine Islands ..... lbs.	286,712	10,830	714,323	25,084	1,811,931	62,859	1,924,853	63,307
Other countries ..... lbs.	71,544	3,641	35,213	1,491	266,854	13,030	162,670	6,887
Book paper, not coated ..... lbs.	3,403,557	215,776	1,674,746	109,963	10,366,928	678,482	4,368,093	293,349
Exports to:								
Europe ..... lbs.	27,099	2,464	91,131	6,506	212,015	19,031	112,125	8,095
Canada ..... lbs.	880,980	51,561	206,552	12,211	2,497,735	147,280	1,020,298	66,768
Mexico ..... lbs.	59,555	5,949	66,278	7,627	206,193	19,999	125,730	13,188
Cuba ..... lbs.	307,759	20,606	226,688	14,619	1,181,301	81,732	685,182	43,637
Argentina ..... lbs.	42,106	3,363	110,565	6,238	236,332	16,955	294,772	17,667
Other South America ..... lbs.	172,560	12,602	161,491	11,606	511,573	38,592	302,375	21,885
China, Hong Kong, and Kwantung... lbs.	1,157,432	69,965	405,847	22,517	3,151,830	191,712	413,493	23,670
Philippine Islands ..... lbs.	487,656	31,515	104,664	7,134	1,316,261	85,419	661,960	47,544
Australia ..... lbs.	103,238	6,806	123,827	7,154	260,323	20,398	332,365	18,127
Other countries ..... lbs.	165,172	10,945	177,703	14,351	793,365	57,364	419,793	32,768
Cover paper ..... lbs.	258,522	44,387	170,051	24,653	706,869	113,110	462,667	68,161
Greaseproof and waterproof paper..... lbs.	260,889	53,685	510,549	96,625	715,018	144,697	1,337,845	239,765
Overissue and old newspapers..... lbs.	14,526,552	127,323	13,859,910	108,454	36,278,492	329,268	41,302,060	311,812
Wrapping paper ..... lbs.	3,848,278	277,196	2,183,287	156,632	12,939,306	859,949	8,367,046	467,126
Surface-coated paper ..... lbs.	590,589	75,704	513,206	57,121	2,270,996	259,392	1,801,035	188,387
Tissue and crepe paper..... lbs.	561,324	96,410	203,066	38,206	1,541,123	264,630	819,757	133,028
Toilet paper ..... lbs.	518,247	60,143	645,154	71,388	1,908,077	210,172	1,826,693	207,044
Paper towels and napkins..... lbs.	289,207	37,839	308,280	30,345	1,034,832	121,698	913,828	87,083
Boxboard (paperboard and strawboard)..... lbs.	4,049,068	103,654	6,181,311	141,431	16,225,583	405,729	14,636,711	335,891
Bristols and bristol board..... lbs.	209,819	23,654	213,852	21,788	820,850	69,748	548,585	57,958
Other paper board..... lbs.	2,496,777	124,711	2,044,629	108,780	9,737,762	498,380	6,604,789	320,544
Sheathing and building paper..... lbs.	1,177,624	57,618	1,881,846	59,824	4,174,212	175,764	4,621,083	138,532
Fiber insulating lath or board..... sq. ft.	4,622,386	153,200	2,328,926	90,270	16,096,747	524,287	9,344,481	309,460
Wall board of paper or pulp..... sq. ft.	4,368,324	128,181	1,569,430	58,492	8,777,930	274,585	4,337,677	151,822
Blotting paper ..... lbs.	386,457	44,518	228,119	25,999	912,500	109,002	558,436	64,449
Filing folders, index cards, and other office forms ..... lbs.	161,444	51,711	168,345	41,223	412,855	149,680	438,617	129,841
Papeteries (fancy writing paper)..... lbs.	61,580	12,208	34,358	8,232	171,172	34,920	68,025	17,376
Other writing paper ..... lbs.	1,882,517	199,439	1,394,746	120,308	5,572,406	575,791	3,692,349	347,688
Paper hangings (wall paper)..... rolls	519,877	75,969	382,852	51,877	1,580,326	224,586	1,383,582	170,893
Paper bags ..... lbs.	903,363	70,580	1,498,209	99,125	2,514,249	216,874	3,331,123	237,256
Boxes and cartons..... lbs.	2,557,718	149,601	1,077,335	72,683	5,909,179	357,809	3,447,808	236,340
Envelopes ..... lbs.	199,226	33,211	139,378	21,728	596,091	102,267	450,149	68,705
Vulcanized fiber sheets, strips, rods, and tubes ..... lbs.	513,688	121,710	310,459	79,606	1,304,187	323,961	849,440	214,163
Cash-register and adding-machine paper..... lbs.	370,901	35,873	498,127	36,584	1,112,452	106,844	1,833,991	144,545
Other paper and paper products.....	.....	408,246	.....	314,827	.....	1,217,326	.....	855,999

WOOD PULP AND PAPER STOCK

Sulphite wood pulp ..... tons	1,505	90,688	2,990	148,611	6,059	339,349	6,756	335,326
Soda wood pulp ..... tons	65	4,985	176	12,773	752	58,915	348	25,713
Other wood pulp ..... tons	380	10,601	71	3,990	1,987	81,594	164	12,530
Rags and other paper stock..... lbs.	4,898,442	64,325	5,707,712	54,338	17,766,951	263,283	14,326,172	157,156

PAPER AND PULP MILL MACHINERY

Paper and pulp mill machinery.....	.....	221,192	.....	111,537	.....	788,106	.....	367,910

Virginia-Carolina Golf Tournament

The Sixth Invitation Spring Golf Tournament of the Virginia-Carolina Paper Trade Association is to be held at the Princess Anne Country Club, Virginia Beach, Va., on Thursday and Friday, June 18 and 19. All entrants are to meet at the Cavalier Hotel, Virginia Beach, which adjoins the golf course, at Thursday noon, to prepare themselves for golf, so that there will be no delay when the starting times are announced. Twelve prizes are to be awarded in all.

Visitors are requested to bring their wives and lady friends and are also urged to bring their bathing suits along. There will be a special golf event for the ladies, for which two prizes will be awarded.

Further information may be obtained from Carl Whittaker, of the Cauthorne Paper Company, Richmond, Va., who is the chairman of the golf committee.

Collins Record Index Well Received

Hayward Beatty, representative of Collins Manufacturing Company of North Wilbraham, Mass., for New York and the east, reports a splendid reception for Collins Record Index, the new rag content line brought out by this mill a few months ago. The line is made in two lighter weights in addition to the regular weights. Agents appointed in New York are Jay H. Alvere, Richard C. Loesch, Willmann Paper Company and Lincoln Paper Corporation. Other agents in the East are Garrett-Buchanan Company and Whiting-Patterson Company in Philadelphia, J. Francis Hock Company, Baltimore, and Brubaker Paper Company, Pittsburgh.

Report is also made by Mr. Beatty that with the stocking of Arkwright and Eminent Ledgers by Lincoln Paper Corporation, this house has become stocking agents for all of the Collins lines.

TECHNICAL BOOKS
for
The PAPER and PULP INDUSTRIES

CHEMISTRY *of the* SULPHITE PROCESS

by R. N. Miller and W. H. Swanson
M. W. Bray, R. Soderquist, T. M. Andrews,
W. H. Mansson

The papers which constitute this book appeared originally in the trade and technological journals as current reports of the progress of investigations under way at the United States Forest Products Laboratory for a period of about six years beginning with 1921. This information is the accumulation of years of experience. The method by which sulphite with the desired properties is to be made, the conditions under which it must be cooked, the strength of acid to be used, the equipment, operation and materials are all fully covered in this book. Included in this volume also is "Sulphite Pulp from Spruce" by Donald E. Cable.

PRICE $3.00

PAPER MAKING MATERIALS

by Clarence J. West

In this edition, the literature has not only been brought up to date, but many additions have been made to the earlier work.
The paper making materials have been listed in dictionary style under the common and botanical names, the references being given only under the latter.
Books and articles are listed under the author (or title) in the dictionary arrangement, and to refer under each material, to the author, and the year of publication.
This list includes all the woods tested at the Forest Products Laboratory, as well as many tested by the Imperial Institute of Great Britain and by other workers.

PRICE $3.00

PAPER TESTING METHODS

Method of procedure for adoption of official paper testing methods by the Technical Association of the Pulp and Paper Industry. The work on standardization of paper testing methods is divided as follows: Microscopic, Physical, Chemical, Optical Tests for Special Uses of Paper.

A number of new proposed methods and testing instruments are described, and much of the text has been rewritten wherever found necessary as a result of developments since the previous edition.

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BIBLIOGRAPHY OF PAPER MAKING, 1900—1928

by Clarence J. West

A complete record of the literature relating to the manufacturing of pulps and papers published throughout the world from 1900 to September 1928.

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Vol. XCII New York, June 4, 1931 No. 23

LABRADOR'S PULPWOOD RESERVES

News print interests in Canada can never regard with indifference the prospect of Labrador's pulpwood reserves being opened up for the competitive manufacturing of news print. Consequently the published reports during the past week that the Government of Newfoundland were practically being forced to sell Labrador because of a financial crisis due to the failure of a loan issue were treated by the Dominion papers as somewhat of a sensation. On the one hand it was said that European interests would secure Labrador. On the other hand it was said the whole of the resources, pulpwood, mineral and water power, would be turned over to an American syndicate for exploitation. On the top of this was an alternative report that the Dominion of Canada might buy Labrador outright.

To all these rumors, Sir Richard Squires, Premier of New Foundland, has given a denial. While admitting that no tenders were received for the loan, he says arrangements for the money required are being made. In any case Labrador was not for sale. The timber, mineral and water power resources, he said, were available for investors on suitable terms, in conformity with the provisions of the Newfoundland Crown Lands Act of 1930, or special legislation, if any large program of development was being considered, which would not normally come within the scope of existing Crown lands legislation.

Opinions differ as to the value of the pulpwood in Labrador, the fact being that no detailed information in regard to it has ever been compiled. Offhand it is claimed that the Labrador forests contain 100,000,000 cords of spruce, and that this is "the largest virgin area of readily available spruce wood in the world." A big question mark could certainly be put after the words "readily available," for some who claim to know Labrador declare that much of the wood is the very reverse of "readily available."

Still, there are large reserves of wood in this bleak and little known area of some 100,000 square miles on the northeastern coast of the North American Continent, and a concern known as the Dominion Newsprint Company has been in negotiations with the Newfoundland Government for its development. In this company are associated the Reid-Newfoundland Company, the Hearst interests of New York, and the Canada Power and Paper Corporation. The company and the Government have been unable to come to terms and a deadlock at present prevails, with actions pending against the Government for sustaining in force the timber rights granted to the promoters.

The whole development project was to have involved a sum of $65,000,000, but in view of present conditions it is thought hardly likely that any concern would proceed with the development for some years to come, even if an agreement with the Government were arrived at.

A YARDSTICK OF HUMAN EFFORT

The PAPER TRADE JOURNAL has been requested to reprint an editorial which recently appeared in the *Review of Reviews* under the caption of "A Common Yardstick of Human Effort." This has caused considerable comment among industrial executives. It suggests a more scientific basis for the determination of wages which is of timely interest to the pulp and paper industry as well as to industry in general. The editorial is presented herewith with the hope that it may help stimulate thought along these lines:—

One of the reasons why so many wastes or short comings are tolerated in industry is that it is difficult to compare two unlike conditions, or operations of two persons doing different things. Were they evaluated upon a common basis so that their performance was truly comparable, improvements might be possible. Operations could be standardized and pay more fairly based upon actual results.

How many executives know that there already exists a universally applicable unit of human accomplishment? It is known as the "manit," being the standard man-minute of work. The manit may be applied to every sort of work done by human beings, regardless of the rate of pay or the type of work. It is to man-power what the kilowatt hour is to electric power. This unit of work is being used to great advantage in manufacturing plants of highly diversified products—killing animals in a packing plant, calibrating thermometers, loading trucks, assembling watches, or performing the most menial tasks by unskilled labor.

By placing all human effort upon the manit basis, many advantages follow. Comparisons can be made between departments and between plants. The worker's productivity can be compared readily with that of his fellow men and his compensation raised accordingly. The efficiency of departments or individuals can be compared from hour to hour, day to day, and week to week. Because a manit is

the yardstick of a man's effort and work, it is also the basis for payment and for cost determinations. Consequently it provides a system for measuring, stimulating, compensating, and directing efforts of workers.

Sixty manits an hour is a standard hour's work. Men performing less than this are doing less than they should, while those doing more are doing better than the average and so can be paid accordingly. A great advantage of the system is that all men in the same department can be given a rating. Slovenly, careless and inefficient workers not only suffer in the matter of pay, but also must put up with the ridicule and even resentment of the others in the department, whose over-all rating the inferior workers pull down. In this way the manit system overcomes one of the principal defects of piece-work; it ties in the indirect workers and supervisors and brings them all under an incentive plan where friendly rivalry and self-interest act as stimuli.

Teamwork wins. By placing an entire department upon the manit basis, everyone in the department is able to do his share, because everyone from the humblest helper up feels the common incentive to turn out the maximum work. Helpers, supervisors, indirect laborers, and foremen all can share in the financial reward as determined by the prorated share of each.

A great advantage, too, is that the system proves to the executive that all businesses are, fundamentally, the same, even if each appears to be different. The system is invaluable even in those plants which are already efficient; because it brings to light conditions which had not been suspected. The system is one which the ordinary worker can understand—and when a worker understands the basis on which he is paid, or the basis on which he is compared with his fellow workers, suspicion and ill-feeling do not take root. Because it enables men to be paid what they are worth, the manit system not only tends to increase production, but tends to increase the earnings of the employees.

A manufacturer of door-closing devices increased yearly savings $19,841, while the employees increased their earnings 34.3 per cent. A manufacturer of sprinkler apparatus is saving at the annual rate of $14,651, while the employee's earnings have increased 29 per cent. A manufacturer of metal screens saved $9870 the first year, while the employees obtained 26 per cent. more in wages. A lithographer saved $42,000 a year and increased wages 26.3 per cent. A retail chain drug company's warehouse was able to increase wages 5.8 per cent. and save in one year $23,869. A bathroom equipment manufacturer saved $40,381 the first year, and was able to pay 17.9 per cent. more wages.

Far too many concerns look upon higher wages as an expense, something that will detract from profits. A blanket rise in wages will decrease profits when men not deserving a wage are given one. The instances given above of worthwhile annual savings, accompanied by an increase in employee's earnings, prove that an increase in wages increases profit when the increase is properly distributed. No system of compensation or of rating an individual is scientifically correct unless it takes into consideration the human element—man-minutes. That is why the manit is achieving results.

G. W. Knowlton Leaves $810,202

[FROM OUR REGULAR CORRESPONDENT]

WATERTOWN, N. Y., June 1, 1931—An appraisal just completed of the estate of the late George W. Knowlton, president of Knowlton Brothers Inc. revealed that he left $810,202.31. The net estate to be divided among the heirs will amount to $435,522.86. The gross estate is composed of real estate valued at $30,839.50 mortgages, notes and accounts $94,336.16, cash $4,060.30, personal effects $2,000, separate contracts for sale of stock $12,720, stocks and bonds $66,246.35. The real estate includes his residence in this city.

The deductions from the gross estate are considerable, amounting to $374,679.45 consisting of $327,311.13 debts and $31,134.50 to the executors as commissions; funeral and administration $15,933.82. Under the terms of the will the net estate is divided as follows: dower to Mrs. Gertrude S. Knowlton, widow $905; absolute bequest to her $2,000; life estate to her $42,583; C. F. Knowlton, a son, Avondale Estates, Ga., $42,533; John Knowlton and George Knowlton, grandsons, Avondale Estates, Ga., $17,736.99 each; G. Seymour Knowlton, Theodore E. Knowlton, sons. Mrs. E. E. Camp, Mrs. G. G. Pirnie daughters, $78,006.97 each. The bequest to C. F. Knowlton and his children equals the share allotted to the other members of the family.

Among his holdings were 9,375 shares of common stock in the St. Regis Paper Company valued at $191,015.63; 1,000 shares of preferred stock in Knowlton Brothers valued at $100,000 and 744 shares of common valued at $99,000; 1,800 shares of Anaconda Copper, $69,525; 360 shares of United States Steel, $52,290; 1,666 shares of Niagara-Hudson Power Company, $24,885.86; 125 shares of Northern New York Trust Company, $17,000; 100 shares of Eastman Kodak Company, $16,875; 40 shares of Northern New York Securities Company, $2,400; 57 shares of Agricultural Insurance Company, $5,529.

Valentine Schuler Heads New Firm

The Franklin Paper and Twine Corporation 126 Bleecker street, New York which has been recently incorporated with a capital of 100 shares of stock, no par value. This new firm recently incorporated and organized by Valentine Schuler who will be president. He was associated with Wilkinson Bros. & Co. Inc. for twenty years as a salesman, during which time he has enjoyed the confidence of a large clientele and during which time he has made a host of friends among the jobbers and mill men. He is forty years old, married and resides at Wykagyl Park, New Rochelle, New York. He has always been a paper man, for his early training was with the firm of Osborn & Wilson.

Mr. William Carruthers will be an able secretary and treasurer, who until recently was connected with Wilkinson Bros. & Co., Inc. as cashier. He has also had a good training in paper under the direct leadership of J. C. Mallalieu, during his time with Chas. F. Hubbs & Co. He was also sales manager for Auer & Twitchell, of Philadelphia.

The new corporation occupies large quarters in the center of the paper jobbing district and has been reported as doing already a good business.

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ANNOUNCES

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Section of the
Technical Association of the Pulp and Paper Industry
Edited by Ronald G. Macdonald, Secretary

Proper Care Of Rubber Covered Press Rolls*

By G. Elmer Emigh [1]

Much thought, care and time must be given to rubber covered press rolls, in both Fourdrinier and cylinder machines. There are also many things that are of vital importance in the proper handling of rolls to get long life, and long runs between grindings.

The writer has found it necessary, first of all, to get the right density suitable for the number of presses on a machine, starting at the 1st press, provided that a suction couch is run.

Many mills have used granite rolls on top, causing very limited felt life. If granite rolls could be replaced by a good rubber covered roll, say with 1 inch thickness, and a density of 30 to 35, felt life could be prolonged, and better couching, as well as many breaks saved, which occur as the result of the harder rolls.

Getting to the 2nd and 3rd presses. A density ranging from 60 to 65 should be sufficient. If granite top press rolls are used, a density around 65 has been found very successful. If wooden top rolls are used, the density could run to 70, and good long life could be had on the rolls.

Atmospheric Conditions

Regarding the proper care of press rolls, say when they are changed, and lay around for re-grinding. The writer has found it very advantageous to keep the rolls in a good cool place, where atmospheric conditions are not very changeable.

It is common practice, when a roll is changed on Sunday, to let it set in a wooden box to keep falling objects from putting holes, cuts, etc., in the roll. Also the roll is often set near the dry end of the machine room which will cause the rubber to become hard and check. It is further a common practice to grind the rolls just as soon as they are taken out of the machine, to a certain crown, and let them set for weeks before being put back in the machine. This, I have found, to be a very bad practice, as the roll will glaze and check very quickly, and good long runs can not be expected. But, if the rolls are let set around the wet end, in trucks, with the weight all resting on the journals, and the rolls covered with wet felt, and kept wet with the hose every day, this will keep them from checking. Then again, if the roll is to be changed on a Sunday, it should be ground on Saturday or Friday, and good results can then be expected. This will eliminate much wash boarding such as is experienced in many mills.

Proper Alignment

Proper alignment is also of the greatest importance. Boss machine tenders should very often drop a line and plumb bob down over the face of the top roll and line up the front and back side.

Too much stress cannot be applied to the proper care of rolls that are let run too long, say where a screw or small bolt, or some other hard substance has been let go through the press. Just as soon as possible, a good vulcanizer should be called in, the place cut out, and a good job of dove tailed vulcanizing made in the roll. If this is not done, water will soon wind and worm its way in and around the core of the roll, loosening the rubber, and often causing a large blister or loose place to show around the surface of the roll.

Longer Life

If proper care is taken, as explained above, the writer has found that rolls will last several months without regrinding, and has had rolls last a number of years without having to be recovered.

The manufacturers are often blamed for turning out a poor and inferior roll, whereas if the roll had been given proper attention by the mill hands, much grief and expense could have been saved.

* Read at the spring meeting of the Pacific Section of the Technical Association of the Pulp and Paper Industry, Everett, Wash., April 18-19, 1931.

[1] Superintendent, St. Helens Pulp and Paper Company, St. Helens, Ore.

TAPPI Notes

At the May meeting of the Lake States Section of the Technical Association of the Pulp and Paper Industry the following officers were elected for 1931-32. Chairman—Otto Kress, Institute of Paper Chemistry, Appleton, Wisconsin; Vice Chairman—George F. Hrubecky, John Strang Paper Company, Menasha, Wisconsin; Secretary—R. J. Le Roux, Interlake Pulp and Paper Company, Appleton, Wis. Executive Committee—Allen Abrams, Marathon Paper Mills Company, Rothschild, Wis., and T. C. Bentzen, Whiting-Plover Paper Company, Stevens Point, Wis.

Elwin J. Owens, formerly of the George W. Wheelwright Paper Company, Leominster, Mass., recently died suddenly of heart failure resulting from a nervous breakdown.

H. A. Norseen, a recent graduate of the New York State College of Forestry has joined the technical organization of the Castanea Paper Company, Johnsonburg, Pa.

D. S. Davis has resigned from the technical organization of the Mead Corporation, Chillocothe, Ohio, and has made no definite plans. He may be reached at 198 Caldwell Street, Chillicothe, Ohio.

Gunnar Sundstrom has moved from Bogalusa La. to 300 Jefferson street, Natchez, Miss. Mr. Sundstrom was formerly chemist at the Bogalusa Paper Company, and is at present unemployed.

J. R. Atwater of the Technical Service Department of the Mead Corporation in Chillicothe, Ohio, has been transferred to the Jno. H. Heald Company in Lynchburg, Va.

G. P. Genberg, technical director of the Fraser Company, Ltd., Edmundston, N. B. was a New York visitor recently and reported that his department was very active at present.

The Development of Freeness Testers*

By Frederic C. Clark[1]

The purpose of this article is to briefly and concisely set forth the important ideas and principles proposed or developed by various experimenters, as a means of measuring that elusive change in cellulose as it progresses from the condition of pulp, or half stuff, to the condition of whole stuff, ready for felting into a sheet of paper.

Industrial products, in process of manufacture and as finished products, are generally not susceptible to simple physical measurements, as a means of determining the quality of a product, or as a means of measuring its progress through the manufacturing process.

Physical measurements are subdivided into three fundamental units of length, mass and time. The manufacture of a yardstick involves comparatively simple physical testing of the product, as in this case the finished product may easily be compared with one yardstick. Control testing of this kind is relatively simple both as to actual measurements and interpretation of results. The manufacture of a test tube involves more complex physical testing as measurements of length and volume are necessary. Still more complex products require more complex physical testing, in some cases involving the three fundamental units of length, mass and time, in order that control testing may be carried on.

The great majority of manufactured products are not susceptible of simple physical measurements for manufacturing control, but require the development of special testing apparatus, designed to measure some definite property of a particular material. Testing apparatus of this kind does not measure in units of length, mass and time, but combines two or more of these units into secondary units of measurements, and these secondary units of measurements may then be used directly for manufacturing control.

A very simple type of apparatus for these so-called secondary units of measurements is the hydromenter for measuring specific gravity, which is a combination of the units of length and mass. The viscosimeter for measuring the viscosity of oils is a still more complex type of apparatus, for it combines units of length, mass and time into one unit, that we call viscosity.

No product can be made uniformly without suitable testing methods and equipment, even though this "testing method and equipment" is that subtle sixth sense developed by a good beaterman, that enables him to "feel" stock in a beater and tell when it is ready to "dump." Industry is full of just such "rule of thumb" methods that frequently exist for hundreds of years, and almost defy reproduction in definite physical terms, because the physical change that takes place in the process of manufacture is involved and complicated and frequently is little understood.

For years it has been recognized that cellulose undergoes very definite changes during the "beating" process. Many attempts have been made to measure this change in the cellulose, and there has been a step by step development of apparatus that is beginning to be recognized and used in the industry.

The real purpose of this article is, therefore, to set forth this development of so-called freeness testers, in order that we may clarify some points frequently misunderstood, and in order that future experimenters may not waste time with new apparatus, that operate under principles already tried out and discarded for excellent reasons.

* Presented at the annual meeting of the Technical Association of the Pulp and Paper Industry, New York, N. Y., Feb. 17-19, 1931.

[1] Member TAPPI vice president, Skinner & Sherman, Inc., Boston, Mass.

FIG. 1
Klemm sedimentation tester.

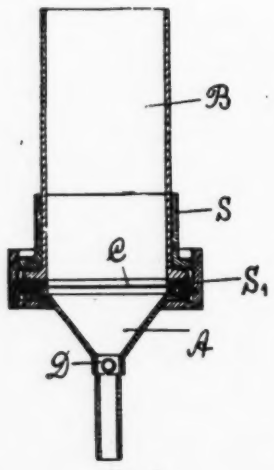


FIG. 3
Cross section of drainage chamber Skark tester.

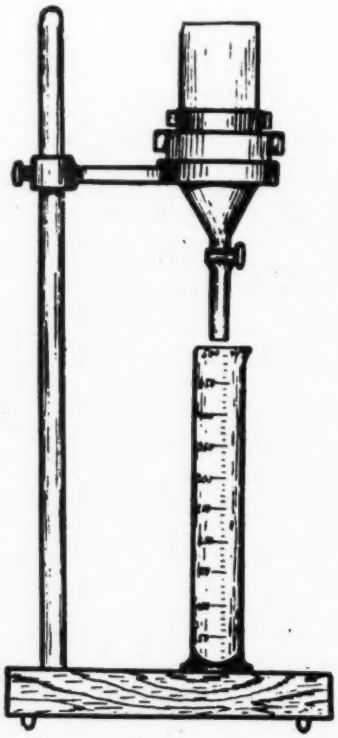


FIG. 2
Skark's sedimentation tester.

Definition

The terms "freeness," "slowness," and "wetness" are terms long used in the paper industry to describe one of the properties or condition of a pulp. These terms are more or less loosely used, though their meaning is generally understood. All of these terms attempt to describe the physical condition of cellulose fibers, as a result of some mechanical action on the fibers. The terms attempt to describe or predict the drainage of water from the fibers, while the fibers are being felted into a sheet of paper. A "free" pulp allows water to drain rapidly from the fibers, while a "slow" pulp allows water to drain relatively less rapidly from the fibers. "Freeness" and "slowness" are therefore at opposite ends of the scale of measurement. The terms "wetness" is less definite than the terms "freeness" and "slowness" and should be entirely discarded. The terms "freeness" and "slowness" should be defined in terms of the most suitable instrument, and one of these terms should be selected and concisely defined for general use and understanding. More will be said about this later on.

Developments of "Freeness" or "Slowness" Testing Devices—Sometimes Called Beating Testers—with a brief discussion of what they accomplished and their limitations.

The first recorded attempt to measure this "degree of beating" was by Dr. Paul Klemm of Gautsch (near Leipzig), Germany. In 1907, he was granted a German patent for a device that he calls a Sedimentation Tester. Dr. Klemm for several years had been observing the felting of cellulose fibers on the wire, as the water drained away. He observed that beaten stock formed a more compact mat of pulp than stock that was very little beaten. Therefore he, with Louis Schopper of Leipzig, Germany, patented his Sedimentation Tester, which is essentially a glass tube graduated in cubic centimeters. One end of the tube is covered with a wire screen and a quick opening cap. The other end of the glass tube has an air vent or stopcock. The glass tube is supported near its center and may be revolved about this support. See figure No. 1.

The test is made as follows: Two grams of air dry pulp are made up to 200 cc. in water at 17.5 deg. C. The water and pulp are well mixed, then poured into the tester, the cover secured, the whole tube revolved slowly, to insure uniform mixing, the tube then clamped in the vertical position, the bottom quickly opened, and the top cap removed. After all water has drained out, the volume of the fiber mat is read directly in cubic centimeters. Klemm therefore measures the volume of fibers deposited on a wire screen under standard draining conditions. He does not consider or attempt to measure the time or volume of out-flow of the water.

It may be of interest to note that Klemm reduces his results to the basis of one gram of pulp and records that a "free" pulp has a maximum "deposition volume" of 26 cubic centimeters, while a "very greasy" pulp will have a minimum "deposition volume" of about 9 cubic centimeters.

The Klemm Sedimentation Tester did not come into general use abroad, and very few were brought into the United States although it was patented here on January 19, 1909.

In 1910, Dr. E. Kirchner published his book entitled "Das Papier." In this book, pages 199 and 200, he describes the Klemm Sedimentation Tester and points out that in addition to Dr. Klemm's "Deposition Volume for the determination of results," it is also possible and may be advisable to observe or measure the "velocity of water outflow."

In 1910, Von E. W. Leop. Skark published an article entitled "A New Apparatus for Examining the Fineness of Materials," Papier Fabrikant, (1910) pages 49 to 61, incl., also page 80a.

In this article he reviews the Klemm Sedimentation Tester and points out certain limitations in its use. Skark states that "free" stocks take from three to five minutes to discharge the water, while "very greasy" stocks may require one hour, and with these "very greasy" stocks the rate of settling or formation of the mat becomes so much retarded that one is liable to measure them before drainage has ceased, in which case he would record this "very greasy" stock as a "free" stock. Skark also points out that "free" stocks are relatively easy to measure while "greasy" stocks are difficult to measure, as greasy pulp forms a meniscus at the surface of the pulp so that the true volume of the mat must be estimated. Skark finally points out that the Klemm Tester works best on "free" stocks and is of very doubtful value on "slow" stocks.

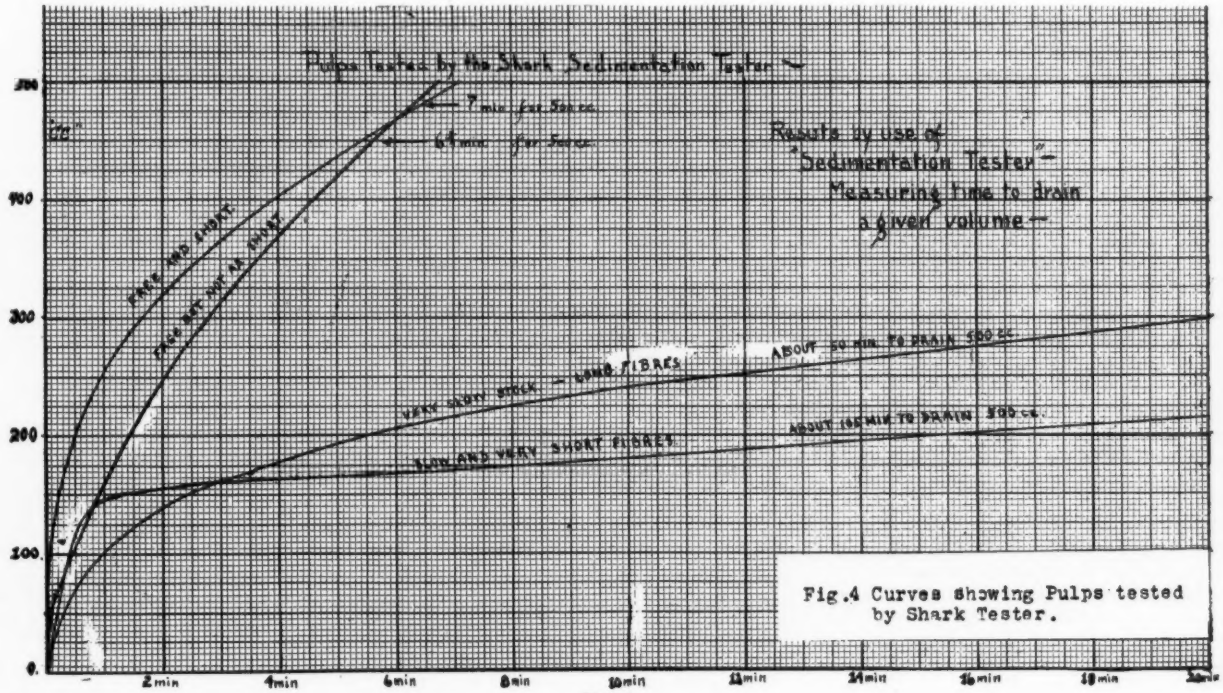


Fig.4 Curves showing Pulps tested by Shark Tester.

FIG. 4

Skark then describes his new apparatus as follows: (See Figs. 2 and 3. Fig. 3 shows the drainage chamber.) The apparatus consists essentially of a vertical cylinder having a sieve or wire cloth at its bottom, pulp forms a mat on this wire or sieve just as in the Klemm tester and retards the drainage of water. The outflowing water is collected by a funnel below the screen and is discharged into a measuring graduate. The inventor claims to measure the "velocity of outflowing water" but what he actually measures is the total volume of discharge at consecutive time intervals.

Skark next points out that the speed of the outflowing water depends upon:

1.—Fineness of the fibrous material.
2.—Amount of the fibrous material.
3.—Amount of water used.
4.—Surface of the screen.
5.—Height of the liquid.
6.—Fineness of the screen.

The total volume of outflow is recorded at thirty second intervals, and these volumes are plotted against time, and the curve is the characteristic curve of the material. A "free" stock will show a curve that rises rapidly and shows very little decrease in rate of flow during the drainage period. A "slow" stock on the other hand rapidly decreases its rate of outflow with the result that the characteristic curve shows very little upward slope after the first sudden rush of drainage water. (See Fig. 4.) Skark also points out that the presence of very short stock causes a bend or "knee" in the characteristic curve, and that this is true in mixtures of "free" and short fibers as well as in mixtures of "slow" and short fibers. (See Fig. 4.)

In 1911, Von E. W. Leop. Skark in Papier Fabrikant (June 16, 23, 1911) pages 83-90 incl. describes improvements to his original apparatus. These improvements relate to some minor mechanical details, the most important being a recording mechanism that automatically plots the curve of discharge volume against time. No new points are suggested that would improve accuracy or suitability of results. (See Fig. 5 showing recording mechanism.)

In 1913, Schopper presented a paper before the Society of Cellulose and Paper Chemists entitled "Apparatus for Testing Degree of Beating." This paper was published in several technical journals as follows:

Papier Zeitung, March 5, 1914, Vol. 39, No. 19, pages 642-645.

Wochenblatt fur Papierfabrikation, April 4, 1914. Vol. 45, No. 14, pages 1208-1211.

Paper, April 15, 1914, Vol. 14, No. 5, pages 19 and 20.

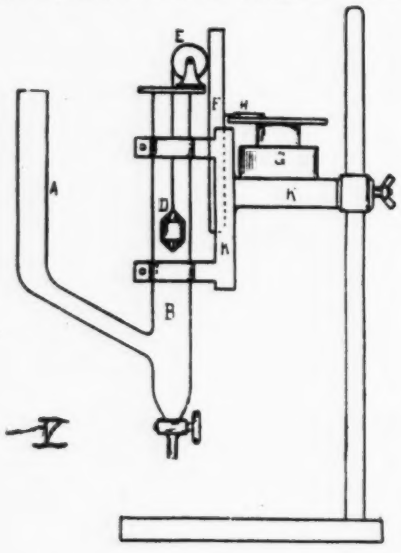


FIG. 5

Recording mechanism for improved Skark tester.

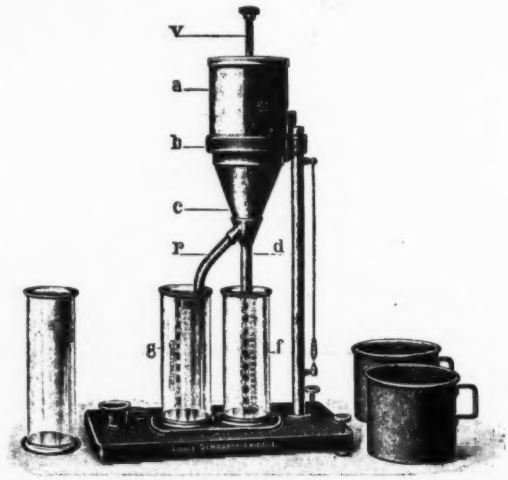


FIG. 6

Schopper-Riegel beating tester.

Schopper and Riegel noted in using the Klemm Sedimentation Tester or the Skark Discharge Tester that all pulps showed a very rapid discharge at the beginning of the test, followed by a more or less rapid decrease in the rate of flow. It was further noted that very free pulp would discharge over half its total volume in this sudden rush, while with the very slow pulps this first sudden rush would discharge less than a tenth of the total volume.

The apparatus (See Figs. 6 and 7.) that was finally developed by Schopper and Riegel has as its most important part, a cone, with two discharge orifices of different size, placed at different levels, and by means of this construction, a principle was carried out, whereby the sudden rush of water from free pulps was quickly discharged through the larger and higher orifice, and with very slow pulps, almost all of the total volume of water was finally discharged through the lower and smaller opening. The principle that was here discovered and carried out in the apparatus, was to provide a means for "separating the rapidly from the slowly escaping water." This was accomplished by the use of the cone or divided funnel.

On February 23, 1916, A. B. Green published an article in Paper, Volume 17, No. 24, pages 21, 22, and 23, entitled "Some Methods for the Study of Beating." On page 21, paragraph 4, last sentence, he states, "By combining the divided funnel of the Schopper-Riegel tester, with a different way of taking the sample and starting the draining operation" and then he goes on to describe his apparatus, which as he frankly states embodies "the divided funnel principle" so necessary in any freeness tester. (See Fig. 8 for details of Green tester.)

On October 11, 1916, V. E. Fishburn and O. L. E. Weber published an article in Paper, Volume 19, No. 5, pages 13, 14, 15 and 16, entitled "Sedimentation Tester for Groundwood Pulp." This article describes a so-called Sedimentation Tester, but measures the time to discharge a given volume of water, and in this way differs from both Klemm and Skark. This tester was used by them for control testing in the manufacture of groundwood pulp.

On March 1, 1917, Pulp & Paper Magazine of Canada, pages 217 and 218, under the name of "Snowshoe," an article was published entitled "The Sedimentation Test of Groundwood Pulp." The apparatus (See Fig. 9 Snowshoe Tester) herein described is similar to the Fishburn-Weber apparatus in construction, method of use and results, and is actually a Discharge Tester.

On July 14, 1917, Otto Kress and G. C. McNaughton published an interesting study and discussion in Paper, Volume 20, No. 17, pages 13 to 17, incl. entitled "Experiments in the Beating of Sulphite Pulp." They used a home made so-called Discharge Tester, similar to the Fishburn-Weber type and determined the time

required to discharge a given volume of water. Their study points out the limitations of this type of tester, and they state that the discharge tester "is in no way an indication of the character of beating to which the individual fibers are subjected." Referring further to the discharge tester, they state "the reliability of the instrument as an indication of the beating treatment given the fibers.....is exceedingly questionable."

The above articles by Fishburn, Weber, "Snowshoe," Kress and McNaughton all show the great interest in measuring the degree of beating or fineness of pulps and all show the narrow application of apparatus of the type suggested by Klemm & Skark due to the lack of a suitable end point.

In the PAPER TRADE JOURNAL, Volume 83, No. 11, of March 13, 1924, pages 51 and 52, there is a second article by A. B. Green, entitled "The Measurement of Slowness." In this article, page 51, second column, fourth paragraph, second and third sentences, is the following statement by Green: "Then the Schopper-Riegel patent was published. A very simple trick had been devised by these men in Austria whereby the elusive end point of the draining test, with which we had been struggling, was made definite and extremely delicate."

The original Green Freeness Tester or "Slowness Tester," (See Fig. 8.) as he calls it, was brought out about 1915 and was designed on exactly the same principle as the Schopper-Riegel tester. The Canadian Forest Products Laboratory made a study of freeness testing about 1919 and as a result adopted the Schopper-Riegel principle. The Canadian Freeness Tester (See Fig. 10.) followed the general appearance of the Green instrument but was constructed on more rugged lines.

About 1919 or 1920, F. M. Williams brought out his first

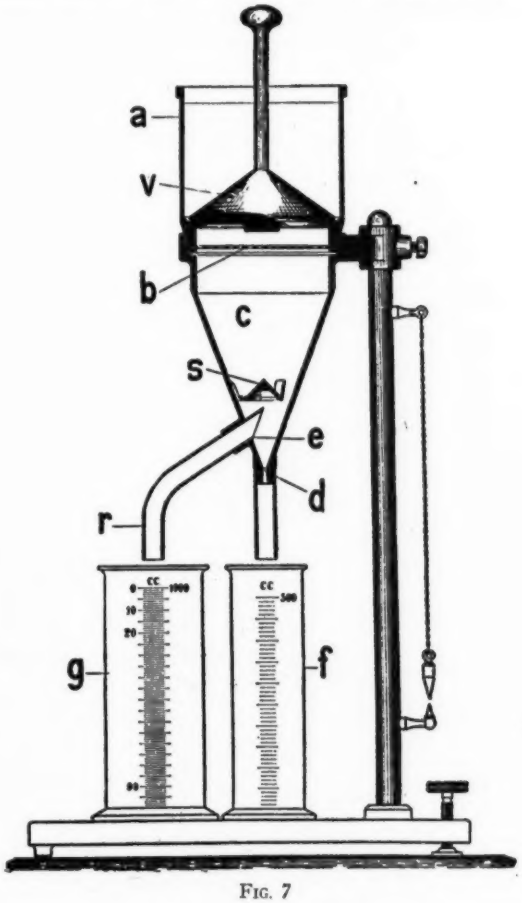


FIG. 7

Details of Schopper-Riegel beating tester.

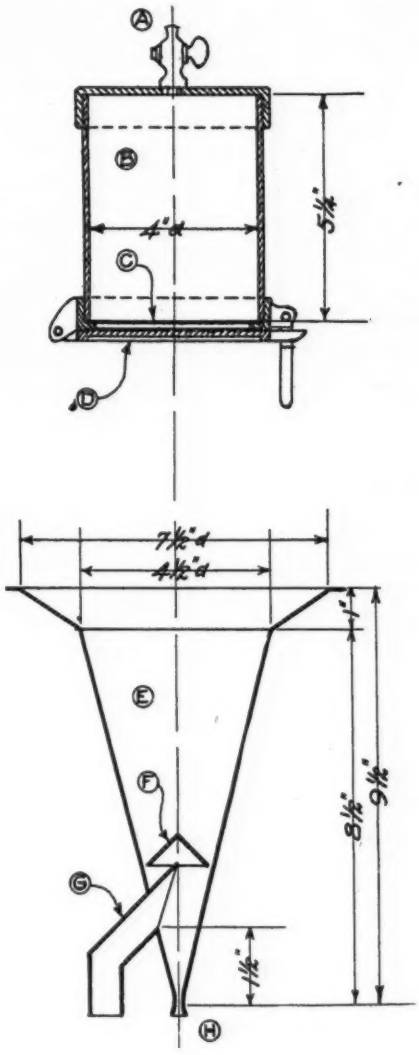


FIG. 8

Green freeness tester.

Freeness Tester. (See Fig. 11.) This instrument was similar to the Schopper-Riegel freeness tester in general appearance and identical as to principle of operation and use. About 1925, Williams brought out his 50-50 freeness tester of the divided funnel principle, the construction of which differed somewhat from his earlier instruments. In this instrument he used a cone or funnel having two orifices of the same diameter of opening, both orifices being at the bottom of the cone or funnel, and one being slightly higher than the other. This arrangement still enabled him to secure a sharp end point and to separate the "freeness water" from that which drained more slowly. The Williams 50-50 freeness tester (See Fig. 12.) gave an entirely different set of freeness readings because of the different freeness scale. During the past two or three years, Williams has brought out a new freeness tester that goes back to the old sedimentation or drainage type of tester reviewed by Kress and McNaughton. This tester is of the straight drainage type and therefore has all the inherent faults of all drainage testers; namely, that the time to discharge must be known, and this means the possibility of error in determining the "elusive end point" referred to by Green.

The latest development in Freeness Testers is the one developed by Robert M. Boehm of Masonite Corporation, Laurel, Mississippi.

See his article "Modified Schopper-Riegel Freeness Testing" in the PAPER TRADE JOURNAL, Vol. 91, No. 9 of August 28, 1930, pages 39, 40 and 41. Mr. Boehm had the problem of measuring the freeness of very free stock prepared for insulating board. He experimented with several testing methods, including the old Fishburn-Weber Drainage Tester, with unsatisfactory results. He then made a study of the Schopper-Riegel tester and as a result enlarged the bottom orifice from about 0.09 inch to 0.375 inch in diameter. He also increased the volume of the pulp chamber from 1 liter to 5 liters and increased the consistency to 0.5%. These changes enabled him to increase materially the sensitivity of his apparatus on the very free pulps he had to work with.

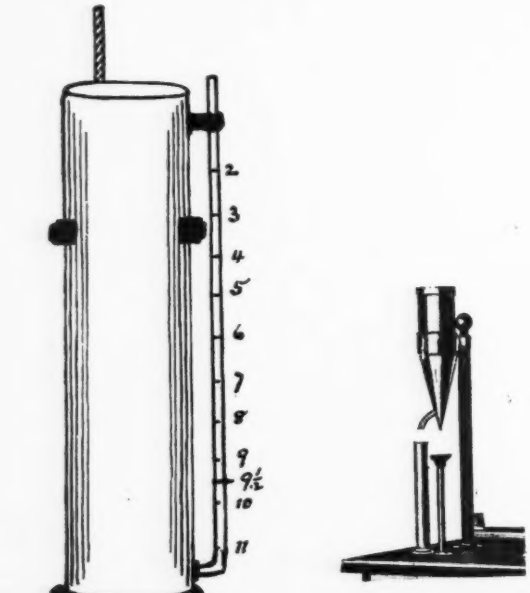
The results accomplished by Mr. Boehm should be of special interest to those working with very free pulps of the order of 850 Schopper-Riegel freeness and higher. This work of Boehm is of particular interest to the industry. He has explored an uncharted field and as a result has clearly demonstrated the importance of the divided funnel principle in evaluating fibrous material, where the freeness is materially higher than those ordinarily encountered in the pulp and paper industry. Boehm's work on the high end of the freeness scale is quite as conclusive as was Green's work on the low end of the Freeness Scale when he referred to the "divided funnel principle" and called it "a very simple trick..... whereby the elusive end point of the draining test..... was made definite and extremely delicate."

The following brief summary of the development of freeness testers is important, as an attempt to concisely set before you the work done to date:

First, Klemm's Sedimentation Tester, that measured "deposition volume," failed because it was hard to determine the end point and very difficult to estimate this "deposition volume" on slow stocks, as frequently it was necessary to wait an hour before taking the final reading.

Second, Kirchner's suggestion to measure "Velocity of water outflow" was impossible due to the physical difficulty of measuring a great change in velocity in a small quantity of liquid, all occurring in a very short space of time. Kirchner's suggestion, even if possible to carry out, would have been of no use, because the answer would have been in the form of a curve and not susceptible of expression as a numerical value.

Third, Skark's apparatus and idea were excellent, for a very limited field. His apparatus was very delicate and therefore suited only to the physical research laboratory, where it would be in trained technical hands. The results by the Skark apparatus did not determine freeness, but merely plotted an interesting curve, of interest to a research laboratory and absolutely worthless to a mill operator or for routine control testing. *Control testing, for*



SEDIMENTATION APPARATUS.

FIG. 9
Snowshoe sedimentation or drainage tester.

FIG. 11
Original Williams freeness tester.

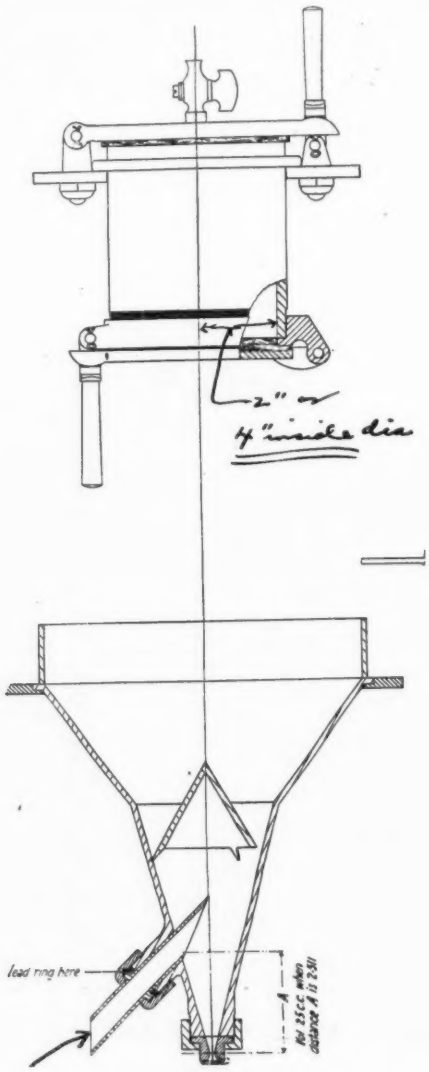


FIG. 10
Canadian-Green freeness tester.

operating use, must produce results expressible in numerical values, that are definitely interpretable in terms of some phase of the manufacturing process. The operator requires "foot-rules graduated in inches" and not pretty graphical curves of questionable value.

The fourth step was a long series of various kinds of drainage testers, of various sizes and shapes. In all of these testers the drainage time was the only measurement taken. Some took the so-called drainage time as the number of seconds or minutes to drain 75 per cent of the water used. Other experimenters used other percentages and some measured the time for practically all the water to drain from the tester, with the result that slow stocks would require 50 to 100 minutes for complete drainage. Anyone who has had to study the change in freeness in the beating of rag stocks, for fifteen to twenty hour beating periods, will certainly agree with me, that Green was absolutely right in referring to tests of very slow stocks as "the elusive end point of the draining test." The evidence, therefore, is all against the drainage tester as being impracticable.

The fifth step was the Schopper-Riegel freeness tester of the "divided funnel principle" that seems to have incorporated in it, all of the good points brought out by all preceding experimenters, and at the same time to have eliminated all of the bad points inherent in previous testers. *This principle* has been carefully studied both here and in other countries and its almost universal adoption in both Canada and the United States, strongly indicates its value to the Industry.

Since the original Schopper-Riegel freeness tester, there have been marketed a number of other freeness testers on this same "divided funnel principle." Some of them have been almost exact duplicates of the original, while others have changed the size of one or both orifices, or the ratio of one to the other; and these changes, with other slight changes in general dimensions, have each produced an apparatus different in outward appearance, but each, without exception, has clung closely to the divided funnel principle, so clearly recognized as essential in a freeness tester.

All who have worked with freeness testers of the divided funnel type recognize the great importance of such things as the following:

Consistency of the water-stock mixture must be uniform.

A standard water temperature must be set and adhered to.

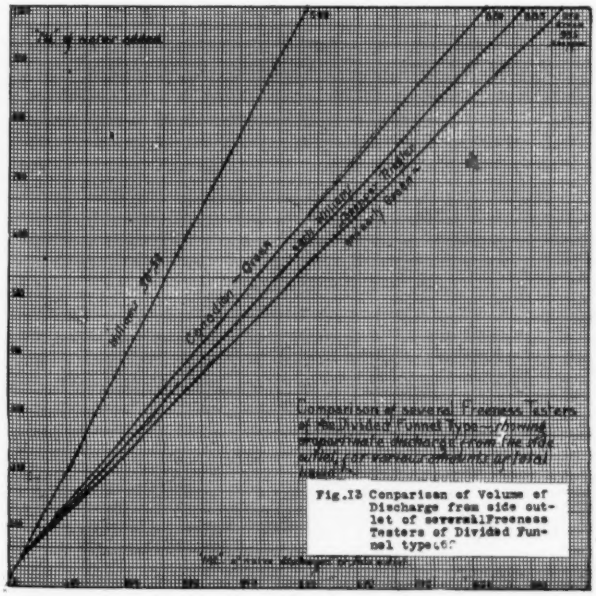


FIG. 13

The water-stock mixture should be mixed under definite conditions.

The apparatus must be level.

The drainage must be started before the stock can begin to settle.

The above six points are imperative if accurate or even useful results are to be obtained. They are too often overlooked, however, and therefore are emphasized here. The last one of the above six is more important than most people realize. In the beating process, pulps and half stuff frequently change their apparent specific gravity and either quickly rise or sink in low consistency mixtures. I have seen very low stock show an apparent freeness of over five hundred, due to the lack of suitable agitation before the beginning of drainage, resulting in a rise of stock to the top of the water. The nearly clear water beneath drained away very rapidly and indicated a stock of much freer than was the actual fact. Sizing and loading materials frequently tend to increase the apparent specific gravity of stock, so that under such conditions without suitable agitation just before drainage begins, there is a tendency for stock to settle rapidly, retard the drainage and indicate a slower stock than actually is the case. It is believed that the rapid agitation of the mixture, obtained with the Schopper-Riegel tester at the instant of the beginning of drainage, is of appreciable value in securing more uniform results.

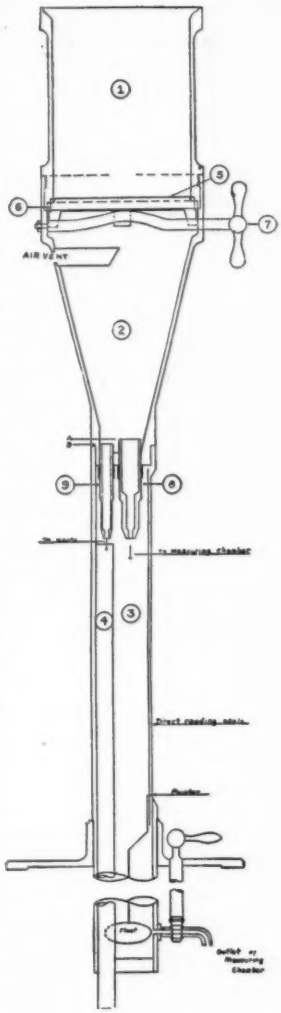


FIG. 12
Williams 50-50 freeness tester.

There are other points in regard to the divided funnel type of freeness tester that are not generally considered and some of these points are most essential.

An important point often overlooked is the question of the uniformity of the wire cloth or perforated plate used to separate the fiber from the outflowing water. The manufacture of woven wire cloth has reached a stage where it may be definitely specified within a very close tolerance. This means that with wire cloth it is possible and practical to specify definite wire diameters and spacing, so that each opening is minutely uniform, and there are no sharp or jagged edges to catch stock and influence results. This is not true with a perforated plate no matter how carefully made. The perforated plate to be effective must have many fine holes, frequently 600 or over in each square inch. This means 24 rows of 25 holes each and the holes are approximately 0.02 inch in diameter. The dies used to punch these holes are difficult to make uniform and of course wear smaller in diameter. The result is holes of varying diameter, which cannot be avoided, even with the most careful examination and selection of the plates. Freeness testers with perforated plates will not check each other anywhere nearly as closely as freeness testers using a woven wire cloth screen.

The most serious difficulty with the perforated plate is the rough

or jagged edge left on one side of the plate. With freeness testers using the perforated plate, care is taken to specify that this rough side should be placed down, so as to avoid catching fibers. Even a casual examination of the rough side of these plates, especially with the usual hand magnifying glass, will readily show that this rough edge, does not compare with the smoothness of a woven wire cloth. The woven wire cloth has an additional advantage in that the area of opening of a wire cloth of about 80 mesh is approximately 30 per cent, while for the perforated plate noted above the area of opening is approximately 20 per cent. Any wearing that increases the diameter of the perforated hole makes a large increase in the area of each hole, while a large wear on the wires of a woven wire cloth makes only a small change in size of opening. This point is important because we want a freeness tester that under the same condition will give duplicate results day after day.

A considerable variation has been noted in various makes of freeness testers in regard to the ratio of the outflow of water from one orifice, with respect to the other, when 1000 cc. of water (without stock) are allowed to discharge freely from the top chamber. The original freeness tester made by Schopper-Riegel will discharge 955 cc. from the side orifice and 45 cc. from the bottom orifice if 1000 cc. of water at 20 deg. C. are placed in the top chamber and the cone shaped valve is removed. The first Green instrument gave a flow of 950 cc. from the side and 50 cc. from the bottom outlet. The Canadian-Green shows 820 cc. through the side and 180 cc. through the bottom. An early Williams showed 885 cc. through the side outlet, while the 50-50 Williams showed only 500 cc. discharged through the side outlet. Each of these freeness testers, therefore, has its own scale of freeness. The Schopper-Riegel has a scale range of 955 to 0, while the 50-50 Williams has a scale range of 500 to 0. The scale of 955 to 0 is almost twice the range of the 500 to 0 and obviously with this extra range will have a wider sensitivity; or in other words, will

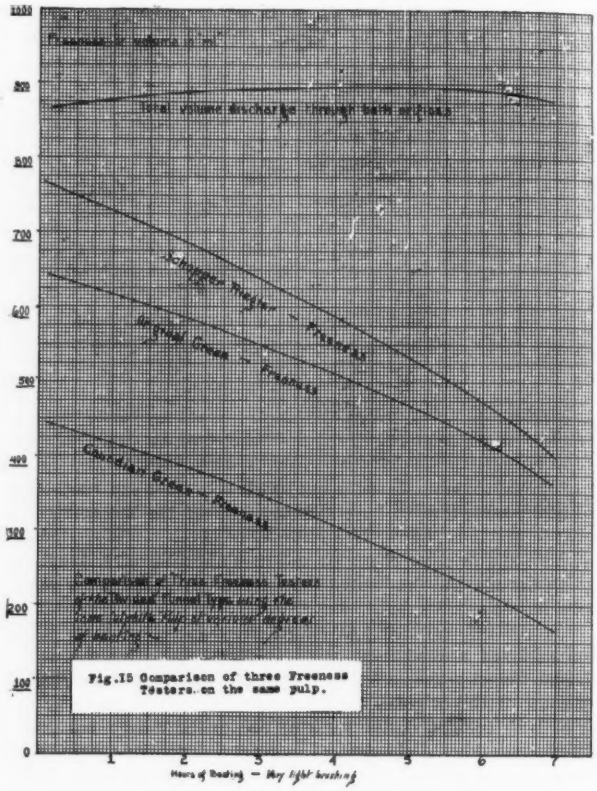


FIG. 15

test pulps of a wider range of freenesses than an instrument having a shorter scale range. Boehm in his work has even found it necessary to widen the scale range of the Schopper-Riegel Freeness Tester, clearly proving that this point is important.

The following graphical charts are of interest as showing the close relationship between several freeness testers of the divided funnel type:

Fig. 13—Comparison of volume of discharge from side outlet of several freeness testers of divided funnel type.

Fig. 14—Comparison of several freeness testers showing time of discharge of 1000 cc. of water through each orifice.

Fig. 15—Comparison of three freeness testers on the same pulp.

In Fig. 15, the top curve marked "Total volume discharge through both orifices" is of special interest. It shows that the sum of the water discharged from both orifices after drainage has ceased is very nearly a constant value of 870 to 890 cc. This is true of beaten stocks with a freeness as low as 50 cc. Schopper-Riegel.

The freeness tester, like all other types of apparatus developed to meet particular manufacturing problems, can be specified very definitely in regard to all of its essential points. If this is done carefully and with full knowledge of the subject, the result will be not only the adoption of a reliable measuring device, but the industry will be enabled to devote all of its time to the use of the instrument in everyday work, without wasting valuable time in attempting to measure one instrument against another. Such work is for a university or government laboratory and has no place in a pulp and paper manufacturing plant.

Just one more suggestion, and that is to define what we mean by "freeness" and "slowness." My own preference is to use and measure "freeness;" for it is the side outlet discharge from the divided funnel, and is quickly and directly obtained. I would only use the term "slow" or "slowness" as qualifying some particular "freeness."

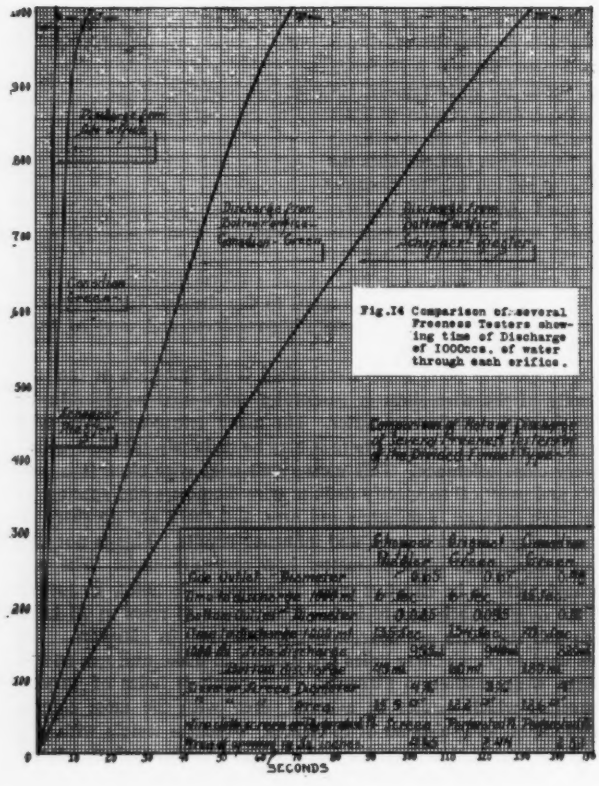


Fig.14 Comparison of several Freeness Testers showing time of Discharge of 1000cc. of water through each orifice.
SECONDS

FIG. 14

Current Paper Trade Literature

Abstracts of Articles and Notes of Papermaking Inventions Compiled by the Committee on Abstracts and Bibliography of the Technical Association of the Pulp and Paper Industry

Clarence J. West, Chairman

For photostatic copies of articles appearing in the Abstract Section, address the chairman of the Abstracts Committee, Dr. Clarence J. West, National Research Council, 21st and B. Streets, Washington, D. C. The charge for this service is: Photostats 9 x 11 inches, 18 cents each; 18 x 11 inches, 35 cents each; 22 x 18 inches, 70 cents each; minimum charge, 50 cents. Payment should be made upon receipt of invoice. Copies of United States patents may be obtained from the U. S. Patent Office, Washington, D. C., for 10 cents each. Send currency not stamps.

Beating

Beater Room Control. A. J. Wildman, Jr. Paper Mill 53, No. 49: 5, 27-28 (Dec. 6, 1930).—The beating-control system used at the mill of the Becker Paper Co. is based on the fact that with a given roll pressure, the freeness of the stock drops by equal amounts in equal time intervals; as the average time of beating in this mill is 2¾ hrs., a freeness test is made 2 hrs. after furnishing, which gives sufficient time to decide of the disposal of a beaterful that has not been properly beaten. Sizing is controlled by means of determinations, which obviates accidental omission of size or alum from the furnish. The operation of the control laboratory is briefly described and the benefits derived from beater control are outlined.—A.P.-C.

Notes on Pulping Machines. A. Lambrette. Papeterie 52: 1114-1121 (Sept. 25), 1193-1198 (Oct. 10, 1930).—A brief description of the various types of pulping machines (Dietrich disintegrator, kollergang, rag cutters, beaters), discussing their relative merits and disadvantages.—A.P.-C.

Filler for Beater Rolls. Harry N. Weir assignor to the Noble & Wood Machine Co. U. S. pat. 1,778,650 (Oct. 14, 1930).—The fillers are placed so that the grain of the wood runs practically vertical to the surface of the roll.—A.P.-C.

Fiber Stock Refining Apparatus. John A. Wiener. U. S. pat. 1,775,743 (Sept. 16, 1930).—The refiner comprises a shell having a frusto-conical bore in which is mounted a frusto-conical plug. At its larger end the plug has a reversely tapered portion, and the stock inlet is at the large end of the refiner and the outlet at the small end.—A.P.-C.

Beater. Ulrich Krichner and Gerald Strecker. Fr. pat. 684,844 (Nov. 14, 1929).—The beater roll is constructed hollow and is provided with an external bedplate and with an internal bedplate. The roll may be constructed without filling between the flybars, in which case the stock can pass into and out of the roll; or it may be constructed with the usual filling between the flybars in which case the stock after being thrown over the backfall is made to pass through the roll before returning in front of the roll.—A.P.-C.

Pulp Beaters. S. Milne, Brit. pat. 335,671, July 26, 1929, addition to No. 207,716.—Beaters having, as described in the parent specification, bedplate bars set obliquely to the axis of the beater roll, are modified to have the sides of the holders of the bars set at the same angle with the beater roll axis, to enable more bars to be fitted in a given area. The bars are set in a rhomboidal container. In one form the bars are wedged in boxes having sides divergent upwards to allow the bars readily to be removed, the wedges being usable repeatedly. Recesses in the beater trough are made slightly wider at their outer ends than at the inner ends to facilitate withdrawal.—A.P.-C.

Beater. Intercontinental Rubber Co. Brit. pat. 338,389.—Pulp is hydrated by repeated squeezing and rubbing between resilient surfaces such as rubber in the presence of water. Balls covered with rubber are used for this purpose in a tube mill in place of rigid tumbling elements, the pulp being run in at one end of the mill and the rate of flow regulated in accordance with the desired degree of hydration.—A.P.-C.

Practice and Control of Beating and Jordaning. F. W. Motschman. Paper Trade J. 92, No. 8, 127, 129 (Feb. 19, 1931).—A practical outline of the author's experiences and opinions concerning the manipulation of beater rolls and measurement of power consumption and indices of hydration. Particular attention is given to types of jordan filler to make specific grades of paper.—A.P.-C.

Automatic Paper-Making Progress and Apparatus. Melvin R. Ware. U. S. pat. 1,773,832 (Aug. 26, 1930).—The stock-preparing, beating and refining units are combined with the sheet or web-forming unit in such a manner that the various means for treating and handling the materials from the weighing or measuring of the pulp to the drying of the sheet constitutes a single, continuous, automatically controlled operation. Uniform consistency is maintained by uniform weighing or measuring of the pulp and addition of a constant amount of water. The thickness of the sheet is made to control the feeding means so as to maintain the thickness constant.—A.P.-C.

Tub Beater. Roy H. Breyfogle. U. S. pat. 1,774,195, Aug. 26, 1930).—The invention relates to continuous beaters in which pulp which has been reduced to the desired size or fineness is withdrawn through a perforated plate forming part of, or placed in the hood normally disposed over the beater roll. The feature of the invention resides in the fact that this plate is disposed immediately above, or on the same side of the beater roll as the usual backfall. The advantage resulting from placing the plate in this position lies in the fact that the maximum centrifugal force created by the rotation of the beater roll in combination with the narrow space between the circumference of the roll and the surface of the backfall is utilized for the purpose of throwing the pulp against the under surface of the perforated plate with a minimum loss of force.—A.P.-C.

Device for Recording and Indicating the Setting of Beater Rolls. George S. Witham, Jr., U. S. pat. 1,776,306, Sept. 23, 1930).—A rod suitably attached to one end of the beater roll shaft is made to operate an indicating needle moving over a graduated scale and also a recording pen which records the beater setting on a chart which is run by clock work.—A.P.-C.

Beater. J. M. Voith Maschinenfabrik. Fr. pat. 685,280 (July 8, 1930).—In order to effect thorough mixture of the stock in the beater, the wall of the beater tub back of the backfall is inclined so as to be much closer to the roll at the outer end of the roll than at the midfeather end.—A.P.-C.

Device for Regulating and Measuring the Pressure Exerted by Beater Rolls. J. M. Voith Maschinenfabrik. Fr. pat. 689,423 (Sept. 5, 1930).—Each bearing of the beater roll is mounted on the shorter, horizontal arm of a bell-crank lever, pivoted on a standard at the side of the beater tub. The vertical arm is connected by means of a link to a rod provided with a regulating spring which acts to counteract the weight of the roll. The degree of pressure of the roll on the bedplate is adjusted by regulating the spring, and the latter is connected to a suitable indicator. Means are provided for raising the roll completely off the bedplate without disturbing the adjustment of the spring.—A.P.-C.

TAPPI Section, Page 314

Effect of Beating Upon Certain Chemical and Physical Properties of Pulps. C. E. Curran, F. A. Simmonds and H. M. Chang. Ind. Eng. Chem. 23: 104-198 (Jan. 1931). A study was made of the effects of beating on certain physical and chemical properties of sulphite and sulphate pulps made from white spruce, as indicated by the physical and chemical tests commonly applied to pulps. The interpretation of the results of the chemical tests were confirmed by X-ray analysis. The chemical properties determined included total cellulose as determined by the chlorination method of isolation, alpha- beta- and gamma-celluloses, copper number, lignin material soluble in 1 per cent sodium hydroxide, available carbon dioxide, total pentosans, and hydrolysis number. The physical tests included the tensile, bursting, folding and tearing strengths, and average fiber lengths. Contrary to general opinion, the chemical constitution of a stuff beaten 4 to 6 hrs. in an approximately neutral aqueous suspension was the same as that of the unbeaten pulp. A slight oxidation of the cellulosic constituent in the sulphate pulp was indicated by the copper number, but not definitely confirmed by the carbon dioxide determination. It is thought that alkali absorbed from the digestion liquor may have caused a slight oxidation of the cellulose. An apparent correlation between the hydrolysis number and the corresponding tearing-strength factor was observed. The results of the fiber measurements in conjunction with the strength tests, indicated that aside from the surface conditions of the fibers, the maximum strength of a paper depends upon an optimum ratio of relatively large to small particles.—A.P.-C.

Evolution of the Beater. Walter Sembritski, Papier-fabr. 28, No. 34: 534-536, (Aug. 24, 1930) Beginning with the stamping mill, and the first beater in use in 1718, the author tells of the various stages and improvements in beater design, up to the present beaters with the present trend in beater design.—J.F.O.

Measurement of the Power Consumption of Beaters. Heinrich Kuhn. Papier-Fabr. 28. No. 46: 726-729 (Nov. 16, 1930). Discussion of an article of the same title appearing in the special number of Papier-Fabr. in which it is contended that the conditions under which the various beaters were compared were not similar.—J.F.O.

Power Measurements on Beaters. Heinrich Kuhn, Biberist, Papierfabr. 28, No. 25A: 114, (June, 1930). Measurements were made on various furnishes and conditions so figures regarding power cost could be available for calculating the beating cost of the paper. A beater roll of 10 meters circumference with 108 knives and 30 knives on the bedplate, gives 456,000 cuttings or brushings per minute. Curves and figures are given for the beating of various stocks. The K.W.H. per 100 kilograms stock ranged from about 20 with offset furnish to about 62 with a furnish for writing paper.—J.F.O.

Hardt Beater. Wochbl Papierfabr. 61, No. 49: 1591-1593 (Dec. 6, 1930).—A new type of beater is described which is designed especially for fine papers. The power consumption for obtaining the same degree is at least one-half that of other type of beaters. It consists essentially of a beater roll with two bedplates, one at the usual position under the roll and the other located further up on the back fall. Interesting data is included as well as a summation of the important factors concerning the design of beaters.—J.F.O.

Beater. R. M. Wendel, Nor. pat. 48,067 (Nov. 12, 1927). The beater roll and the bedplate are enclosed in a stock trough which is formed to a drum revolving around a horizontal shaft—J.F.O.

Beater for Paper and Similar Stock, with a Beater Roll Grinding on a Solid Bed Plate. P. J. Wolff & Sohne G.m.b.H. and Hermann Mallickh. Ger. pat. 503,953 (May 31, 1927). Displaceable inlets and feed devices are placed so as to force the stock into a helical motion through the machine between the beater roll and the housing.—J.F.O.

Process for the Manufacture of "Greasy" Pulp by Beating the Pulp or Pulp Containing Material, Together with the Substance Required for the Formation of the Slime. Carl Schwalbe, Ger. pat. 497,666 (March 5, 1925).—Aqueous solutions of carbohydrates, such as, dextrine or dextrose, are added to the fiberous material before or during the beating.—J.F.O.

Device for Carrying out Beater Experiments upon Fiberous Materials for the Textile and Paper Industry. P. J. Wolff & Sohne, G.m.b.H. and Herman Mallickh. Ger. pat. 497,856 (Jan. 10, 1929).—The device possesses a beater roll arranged in an enclosed housing and a bed plate fixed at the height of the beater roll axis The invention is characterized in that, the beater roll is pressed by means of its own weight against the bed plate and regulated by means of weights placed on the lever provided. —J.F.O.

Process and Device for Making Visible, that is, for Regulating the Degree of Beating of the Stock Used on the Paper Machine. Papyrus A.G. and Karl Buchner. Aust. pat. 118,085 (Feb. 15, 1930). A more or less large part of the water running through the wire of the paper machine is measured and by means of a trough and other devices this quantity of water is recorded and used in determining the amount of beating necessary.—J.F.O.

Beater With Ring-Shaped Beater Tackle and Double Housing, of which the Inner Housing is Displacable in the Vertical Position. Eugen Kutter. Ger. pat. 505,494 (Oct. 9, 1928).—The rotating beater disc is provided with ridges.—J.F.O.

Centrifugal Beater. Paul Erkens. Ger. pat. 499,480 (Jan. 15, 1926.—The centrifugal beater is composed of a revolving cylinderical or conical drum with knives on the inner walls in the usual manner, and a drum corresponding to the form of the above drum also with knives. There is an axial inlet through which the stock passes into the space between the knives where it is beaten by the action of one drum revolving around the other stationary drum. By means of a system of levers and counterweights, the rotating drum can be placed at any desired position in the axial direction, in relation to the non-rotating bed plate or knives.—J.F.O.

Beater. Cellulose-Fabrik Okriftel a.M. and Offenheim. Ger. pat. 499,479 (Feb. 26, 1926). The purpose of the invention is to make use of the grinding action resulting from the roll of the beater which is displacable in the horizontal direction, passing over the bed plate which is displacable both in the horizontal and vertical direction. This is made possible by means of a large solidly built bed plate housing in which two small bed plates are displacable, and whose setting inside the housing follows in the horizontal direction by means of shives. After setting at the right position, a blank wedge is pushed in. In the housing, usual manner of beater tackle, such as, knives, wedges, etc. are placed. —J.F.O.

Bleaching

Concerning the Kinetics of Chlorine Bleach Liquor. Hugo Kauffman, Papier-Fabr. 28, No. 35: 57-559, (Aug. 31, 1930).—The bleach action decreases with increases in alkalinity, almost in a linear function. Hypochlorous acid is the active substance and it also proves that it is not injurious to the fibers. The injurious substance is presumably some intermediate compound.—J.F.O.

Concerning the Analysis of Calcium Hypochlorite Liquor. Erwin Fabrizi, Cellulosefabrik Villach Karten. Papier-Fabr. 28, No. 21: 346, (May 25, 1930).—Because of the high cost of the chemicals used and the troubles involved in the methods now in use, the author has proposed a new method using chloramine. This method is dependable and can be carried out in one to two minutes.—J.F.O.

Studies in the Bleaching of Wood Pulp, Concerning the Influence of the Bleach Process on the Chemical Physical Properties. H. Wenzl, Tech. & Chem. der Papier & Zellstoff-Fabr. 27, No. 2: 17-37 (Mar. 29, 1930). By taking samples of the pulp during bleaching and subjecting it to a beating in the Lampen mill with strength tests made on the pulp after beating, it was possible to observe the action of the bleaching in an alkaline stage. The method and the carrying out of the cooking has a very important

bearing on the quality of the bleached pulp. The bleach process is itself considered as a means of separating the cellulose fiber from its adhering constituents, in an easy bleaching pulp the oxydation reaction predominates while in a hard bleaching pulp the chlorination action predominates. Bleaching with hypochlorite of normal alkalinity there is a considerable difference in the activity of the hypochlorous acid of the sodium and the calcium salt.—J.F.O.

Bleaching Ground Wood. G. P. Muller, Zellstoff Papier 10, No. 12: 865-867 (Dec., 1930).—Bleaching ground wood with calcium hypochlorite is unfeasible, expensive and the color soon reverts back to its original. But a certain whiteness and an increase in permanence is obtained when ground wood is bleached with sodium bisulphite. The sodium bisulphite solution of 4 to 5 degrees Be. is sprayed upon the pulp as it is taken up on the thickener. The chemical change in the pulp so bleached is very slight, the only appreciable difference is the amount of rosin and fats which are removed. The quantity of bleach used is about 1.7 per cent.—J.F.O.

Bleach Requirement Methods for Sulphate Pulp. R. Karlberg and K. Hagfeldt. Svensk-Pappers-Tidn. 33: 594-8 (1930). A variety of methods of determining bleachability of sulphate pulps are described and compared.—C.E.P.

Purified Fiber. Ross Aiken Gorther and Walter F. Hoffman assignors to The Northwest Paper Co. U. S. pat. 1,757,768, (May 6, 1930).—The pulp is purified by placing in an electrolytic cell separated from the electrodes by means of suitable diaphragms (e.g., of 10- ounce canvas) and subjected, preferably at or near boiling temperature, to a direct electric current at a voltage that will give a current density of about 5 amperes per sq. ft. The treatment is continued until the ash content of the pulp has been reduced to the desired point (which may be as low as 0.05 per cent or less).—A.P.-C.

Process for Bleaching. G. Adolph and A. Pietzsch. Swedish, Pat. 70,073 (Mar. 5, 1927). Hydrogen peroxide is used together with "per" compounds, such as persulphate or perphosphates as the bleaching solution.—J.F.O.

Bleaching Process Paper Stock, Lignin, Cotton, and Similar Substances. H. E. Wahlberg. Swed. pat. 70,074 (Apr. 4, 1927). The material being bleached is treated with artificial light or sunlight during the regular bleaching with chlorine or hypochlorite (hypochlorous acid.—J.F.O.

Process for Bleaching with Hypochlorites. I. G. Farbenińdustrie Akt. Ges. Ger. pat. 500,201 (May 18, 1926). Addition to Ger. pat. 498,856. Instead of using nickel or nickel compounds as a catalyser in hastening the action of the hypochlorite, copper, cobalt, etc and its compounds are used together with nickel or nickel compounds.—J.F.O.

Process for Bleaching with Hypochlorite. I. G. Farbenindustrie. A.G. Ger. pat. 498,856 (July 28, 1925). The aqueous solution is brought in contact with nickel in the form of metal, oxides or salts, in presence or temporary basence of the material to be bleached. For example, 10,000 kilograms of pulp is put in a bellmer with the necessary quantity of bleach liquor to which is added 32 kilograms nickel oxide and bleached in the usual manner at the desired temperature. The time is decreased from the normal by about 50 to 75 per cent by the addition of this catalyser, without injury to the pulp. According to claim No. 2 hydroxides or carbonates of the alkalies or alkaline earth are added together with the bleach liquor.—J.F.O.

Bleaching Pulp. Eric Wahlforss assignor to Industrial Processes, Ltd. Can. pat. 305,908 (Nov. 18, 1930.—Pulp is impregnated with an aqueous solution of hypophosphorous acid to react upon the iron in the pulp to form ferric hypophosphite which is stable to the action of light and atmospheric conditions.—A.P.-C.

Process for Bleaching "That Is Oxydizing" of Fibrous Materials. Stefan Aczel, Ger. pat. 495,528 (Mar. 23, 1928). The material being treated is directly subjected to an electrical charge, by passing it between or around the electrodes of an ozonator, or it is treated by the use of electrically produced ozone directly in the anode chamber. The treatment is carried out with or without increase in pressure, in moist or dry condition, with or without change in temperature, and with or without motion of the gases, and especially without those conditions under which cellulose changes completely to oxy-cellulose.—J.F.O.

Arrangement for Deaerating and Treating the Liquids in Bleach and Color Tanks. M. Freiberger, Ger. pat. 496,058 (Feb. 24, 1927). The tank containing the liquid to be deaerated is connected by pipes to a system composed of two tanks which can be regulated by means of two valves; so that the liquid sucked out of color or bleach tank through the system produces a vacuum in both tanks in which the treated liquid runs into.—J.F.O.

Bleaching Pulp and Similar Materials in a Bleach Tower. Zellstoffabrik Waldhof in Mannheim-Waldhof and Adolf Schneider. Ger. pat. 498,559 (Feb. 14, 1926).—A scrapper device is arranged above and a short distance from the perforated plate used as the bottom of the tower, in order to prevent a deposit at the filter. A low power consumption is claimed as well as a complete dewatering of the pulp at the filter plate.—J.F.O.

Bleaching Wood Pulp. George A. Richter and Milton O. Schur assignors to Brown Co. U. S. pat. 1,780,943 (Nov. 11, 1930). Unbleached sulphite pulp is treated with chlorine water and then bleached in a bleach liquor maintained distinctly alkaline throughout the bleaching such as in hypochlorite solution containing caustic soda and containing sufficient "bleach" to whiten the pulp.—A.P.-C.

Process of Purifying Wood Pulp. George A. Richter and Milton O. Schur assignors to Brown Co. U. S. pat. 1,784,161, (Dec. 9, 1930).—Unbleached wood pulp is treated with an oxidizing agent such as calcium hypochlorite or chlorine until the residue from this treatment shows a maximum alpha-cellulose content, and this residue is then digested in an alkaline liquor such as dilute hot caustic soda solution under such conditions as further to increase the alpha-cellulose content and produce a fiber well adapted for paper making. The digested pulp is then bleached.—A.P.-C.

Bleaching Pulp. Ladislav Rys. U. S. pat. 1,787,395, (Dec. 30, 1930).—Pulp or other form of cellulose to be bleached is digested with dilute aqueous solutions of alkaline compounds such as caustic soda and then subjected to a preliminary bleaching with an aqueous solution of chlorine in quantity less than would be required for complete bleaching; the pre-bleached material is then washed and subjected to a further bleaching with hypochlorites (suitably in the presence of catalysts such as salts of copper, nickel on cobalt.—A.P.-C.

Bleaching Paper Pulp. Robert B. Wolf and Raymond S. Hatch assignors to The International Bleaching Corp. Can. pat. 307,171, Dec. 30, 1930.—Pulp is initially treated at low concentration and ordinary temperature with 20 to 40 per cent of the calcium hypochlorite required to complete the bleaching. The released impurities are washed from the pulp and it is then further bleached at high concentration and at a temperature not exceeding 80 degrees F.—A.P.-C.

Sizing

Control of Acidity Improves Sizing. Bennett Ltd. Pulp Paper Mag. Can. 30: 724 (Dec. 25, 1930). The following pH values, though not applying equally well in all cases, are generally recognized as being standard conditions giving the most satisfactory results; stock before alum and size are added 6.5 to 7.5 average 7.0: white water in try at paper machine 4.5 to 6.0 average 5.0. If the stock is acid before addition of the size, local coagulation of the size will take place with resulting loss in sizing efficiency, irregular sizing and even size spots. If the stock has a high alkalinity (pH of 7.5 or more) before addition of the size, it should be investigated for lime salts which are very detrimental to sizing.—A.P.-C.

Process of Preparing Size. Becker and Co. (1924) Limited. Belg. pat. 370,401 (June 30, 1930).—Materials such as waxes, resins, fats, etc., are stirred in an aqueous dispersing medium in presence of a protective colloid such as alkaline casein, at a temperature near the melting or softening point of the substance to be dispersed.—A.P.-C.

Sizing Paper. Raffold International Corp. Brit. pat. 333,620. (May 17, 1929).—Pulp stock is used having a carbonate filler and a paraffin emulsion mixed with the fibrous material. Alum may be added and rosin may be used for emulsifying the paraffin. The emulsion and filler produce a stable flocculent precipitate which is non-sticky, non-agglomerant and ink-resistant.—A.P.-C.

Sizing Dispersions. Becker & Co. (1924). Ltd. Fr. pat. 685,-808 (Nov. 29, 1929).—Dispersions which may be used for sizing purposes are made by a rapid and regular mixing of waxes, resins, paraffins, fats, fatty acids, bituminous substances, stable carbohydrates or their mixtures with drying oils, their distillation residues, etc. in the presence of a dispersing medium such as water and a protective colloid such as casein at a temperature near the fusion or softening point of the substance to be dispersed. The dispersions are diluted and incorporated with the stock, where they are precipitated by a salt producing a multivalent such as aluminum sulphate.—A.P.-C.

Influence of Caustic in the Course of Sizing the Paper and a Few Facts Concerning Delthirnia Sizing. Chintschin, Papierfabr. 28, No. 33: 517-520 (Aug. 17, 1930).—It has been shown that an addition of caustic to the beaters has increased the sizing properties of some papers in which the water used is not the most suitable, such as distilled or soft water, or the quality of the pulp has not the required properties, too low a pentosan content, etc. The influence of pentosans is explained in the fact that with a low pentosan content the pulp has not the ability to absorb the alum that is, the pulp has not the property of swelling. The influence of the ash content in the pulp has not yet been definitely agreed upon. Over dried pulp has given poor sizing results. The explanation for the reason for adding caustic, is that it aids the swelling of the pulp in the beater, hence a better absorption of alum. This addition of caustic brings up the time worn polemic between proponents of the free rosin theory versus the completely saponified rosin. An addition of caustic is self explanatory, more advantageous than the use of Delthirna size.—J.F.O.

Improvements in the Manufacture of Paper. Société Anonyme Française Kodak-Pathé. Belg. pat. 368,197 (April 30, 1930). —To the stock in the beater there is added a special size consisting of a saturated fatty acid in the form of a salt, having an iodine number of 40, and even preferably of less than 5.—A.P.-C.

Sizing Paper. Becker and Co. (1924), Ltd. Brit. pat. 335,902. —Paper or pulp is sized with an emulsion prepared by adding to the molten sizing material, maintained in rapid agitation, 1 to 3 per cent of an aqueous dispersion of a protective colloid, preferably alkali casein. The sizing material is preferably rosin, but may also comprise other resins, solid or semi-solid hydrocarbons, waxes, fats, higher fatty acids, or mixtures thereof, with or without drying oils. The emulsion is precipitated by addition of about 1 per cent of alum. Coloring matter may be incorporated with the emulsion.—A.P.-C.

Dyeing

The Preparation and Purification of Some Paper-Makers' Pigments. E. T. Ellis. Paper Maker and Brit. Paper Trade J. Annual No. 32-34 (1930).—A brief account of the preparation and purification of bone black, ferric oxide, iron buff, lead chromate, manganese bronze, Prussian blue, red lead, smalt and ultramarine.—A.P.-C.

The Dyeing and Coloring of Paper. F. Hamilton. World's Paper Trade Rev. 95, 689-694 (Feb. 20), 730-734 (Feb. 27, 1931). —An address dealing chiefly with the properties of the various classes of coloring matters used in paper making.—A.P.-C.

Color. R. Carter. World's Paper Trade Rev. 95, 716-726; 826. 828, 869-874 (Feb. 27, March 6, 1931).—After a brief review of the properties uses and advantages of basic, acid and substantive dyes and of pigment colors, the chief tests which should be applied to dyes in the paper mill are briefly discussed.—A.P.-C.

Device for the Coloring of Paper. I. G. Farbenindustrie A. G. Ger. pat. 498-859 (Dec. 3, 1925).—The device possesses a color roll revolving in a color trough and a press roll which presses the sheet to be colored on the color roll. It is characterized in that the press roll swings concentric to the color roll and so that the axis of the color roll can be adjusted at any desired angle. In this manner the surface in contact between the paper sheet and the roll revolving in the color tank can be changed as desired.—J.F.O

Process for the Coloring of Highly Finished Papers Such as Pergamyn Before the Hot Treatment Producing the Satin Finish. Ernest Fues, Ger. pat. 504,953 (Sept. 16, 1926). Uncolored or colored machine finished paper is moistened in the desired manner with a quantity of dyestuff, (concentrated or heated if necessary), which is greater than that required for the satin finiishing treatment.—J.F.O.

Process for the Manufacture of Paper With Colored Designs by Couching off a Non-Continuous Sheet to a Continuous Sheet. I. G. Farbenindustrie. A. G. Ger. pat. 498,026 (Sept. 3, 1925).—The whole sheet of paper is unevenly formed before uniting with the broken sheet or with groups of fiber in the usual manner, and then sprayed with color solution.—J.F.O.

Process for the Manufacture of Paper with Relief Acting Surface by Spraying with Colors or Its Solutions, in an Oblique Direction. I. G. Farbenindustrie A. G. Ger. pat. 498,627 (Jan. 23, 1926).—As raw material, colored or uncolored sized marble paper is used.—J.F.O.

Coating and Coloring Paper Webs. Mead Pulp and Paper Co. Brit. pat. 333,034, (July 15, 1929).—A color layer is applied to a traveling sheet and then subjected to the action of a smoothing and spreading roll rotating with such high peripheral speed (suitably about 650 ft per min.) that a force resistant to adhesion of the color to the roll is developed and prevents irregular adhesion of the color.—A.P.-C.

Paper Dictionary

Lexikon der Papierverarbeitung. Dr.-Ing. Henrich Biagosch. Verlag der Papier-Zeitung, Carl Hofmann GmbH, Berlin, S. W. 11. Band I, Erzeugnisse; Band II, Arbeitsverfahren. About 1500 pages and 700 illustrations. Each volume in half leather, 35 RM. The two volumes, 65 RM.

Volume I is devoted to a discussion of paper products, about 2,000 terms being covered. These are divided into 9 classes: Converted papers, 186 pages; "Blöcke," 26 pages; Printing papers, magazines, books, etc., 116 pages; Rolls, 25 pages; Preservative agents, 97 pages; Packing papers, etc., 177 pages; Playing cards, etc., 23 pages; Copying papers, etc., 23 pages; Products from leather, celluloid, etc., 20 pages. The information given consists of the raw material used and the individual steps in the manufacture in the order in which they are carried out.

Volume II describes the operations of paper making, such as sizing, application of adhesives, etc., as well as the machines used for carrying out the operations mentioned in volume I; of the latter, only the general types are discussed. The use of this volume is facilitated by the number of cross-references which are given.

Volume I has a full alphabetical index of the types of paper products described, since each section is arranged alphabetically. Volume II has no index, since the entries are arranged alphabetically in the text.

These volumes were first issued as supplements to the Papier-Zeitung (Volume I, 13 issues; Volume II, 11 issues), but are now available in bound form. C. J. West.

Section of the

COST DEPARTMENT

of the

American Paper and Pulp Association

Edited by T. J. Burke C. A. Director Cost Dept.

The Price Curve in the Paper Industry *

By S. L. Willson[1]

In the daily papers, in magazines and from oral expressions we are deluged with conflicting opinions on many interesting current topics—and particularly those topics of interest that have some relation to our own business. When I was notified that I was expected to give a ten minute talk on the Price Curve in the Paper Industry, I wondered if in expressing an opinion I could substantiate it with some actual facts that would carry weight. When things become blue and everything seems to be on a downward trend, men in industry should be aroused to deep serious thinking about the business conditions affecting them. Mass thought functions more readily when depressions exist and at times seems to preclude clear and logical thought and sane action. This fact often creates doubt, suspicion and incredulity of optimistic opinions, even when they are based upon known facts supporting them.

Supply and Demand

In dealing with the subject of paper prices we have several factors to consider, the foremost being—the law of supply and demand—the factors being over-capacity due to under-consumption or to unnecessary expansion, resulting in added over-capacity. Then we have those who totally disregard others in our industry and selfishly apply the law of the jungle—and thirdly we have a few sane industrialists who, when facts are secured, apply them in an intelligent way.

There can be no difference of opinion as to the effective operation of the law of supply and demand; and on this basic principle with our present capacity and consumption we had reason to expect some softening in prices but not selling prices below producing cost—yet this, in some branches of our industry, is what has occurred, through the operation of the second cause of lower prices—i. e., the application of the attempt to get more than one's share, or an attempt to put a competitor out of business.

Prices Out of Gear

An analysis of the present increased costs of wood pulp, rags, machine supplies, chemicals, wages and overhead will convince any one that, as the selling prices of news, book, boards, kraft and sulphite bonds are today as low or lower than in 1914, they are all out of gear with the present manufacturing costs. The present average cost is approximately 60 per cent more. Some allowances must of course be made for greater production per man on account of wider and faster-running machines and greater efficiency in labor—but even at 30 per cent added cost, the present selling prices on the grades named are just about 30 per cent too low. I don't believe there is any law that prevents a company establishing and maintaining a fair price for his product and letting the world know what that price is as a guide for other sensible men.

Going into the matter in further detail—the approximate increased costs of raw materials over those of 1914 are as follows: Wood Pulp 35 per cent—Rags 60 per cent—Machine Supplies 49 per cent—Chemicals 39 per cent—the only raw material showing a lower cost is Paper Stock which can be bought for 80 per cent of its former cost. This material, however, goes into only the cheapest grade of coarse boards and low grade book papers. The weighted average increased cost of raw materials including the cheap paper stock is 40 per cent. Then we have the wage increase cost of 132 per cent. Expressed more clearly, a wage earner getting $1.00 prior to the war is now getting for practically the same labor $2.32. Averaging both material and labor the increased cost is 59 per cent. These factors do not comprise all of the increased costs as overhead—such as taxes due to appreciated values and higher rates. Salaries and other items that go into overhead must be considered.

Prices of High Grade Papers

You are probably often asked why there should not be a like reduction in the prices of high grade papers, along with news, books, boards and kraft. One reason is because there has not been too much expansion of equipment for high grade papers while there has been great expansion on all other grades; again, the basis of production has not been one of tonnage but one of quality—and these grades have not been just maintained but have been actually greatly improved. A greater percentage of rags in their composition has been used or a better quality of rags, and any man with a knowledge of quality in paper will readily concede that the qualities are obviously better. Again better qualities of bleached pulp have been used. Many mills are blending with rags—Alpha or super Alpha pulp, a refined quality of sulphite.

None of us can predict what will happen to the price curves, but if good merchandising principles are applied and actual costs are used as a basis for establishing a fair

* Delivered at the joint meeting of the Paper Merchants and Manufacturers at Del Monte, Cal.

[1] Pres., American Writing Co., and Pres., American Paper and Pulp Association.

for the exact duplication of orders. As stock circulates around the tub of a beater, it assumes a natural hydraulic gradient due to differences in height of stock on opposite sides of the mid-feather. This differential in hydraulic levels reflects the nature and condition of the stock and is a function of consistency.

In batch beating with constant consistency, any variation in the flow conditions within the tub, as shown by changes in levels, is due to: a. addition of paper making materials, either fibrous or chemical; b. Progressive changes in freeness as reflected in hydration and fiber conditions. The problem is to secure a true record of these variations.

The Meyers-Mesco Beater Stock Recorder is a highly sensitive air operated device which, by means of two recording pens, indicates and records on charts, hydraulic levels at two given points within the tub. Any variation from a constant condition within the beater is faithfully and accurately recorded, whether it be due to the addition of materials or to increase in slowness. Thus the departure of the recorded graph from a true circle affords an exact history of; a. Addition of materials; b. Time of addition; c. Changes in freeness.

The practical value of the instrument lies in its ability to indicate the rate of progress of the beating cycle, the time at which the charge should be dropped, and to furnish records that will enable the operators to make up one beater charge identical with every other.

Non-Clogging Centrifugal Pumps

A non-clogging centrifugal pump for handling sewage and also with a wide application to many processes in industrial plants is described in a bulletin which has just been published by Morris Machine Works. These pumps are the result of the 67 years of experience of this company in building centrifugal pumps for handling abrasive materials, pulp, sludges, etc., and their design includes several special features which are fully explained in the bulletin.

Among the illustrations are views of an assortment of objects such as blocks of wood, rags, clothing sticks, etc., which have passed through one of the pumps without clogging, and the enclosed impeller of a 10-inch pump from which is shown emerging an 8-inch diameter wooden ball, after passing through the water passages from the suction intake.

The test curves of a typical pump are presented, showing an efficiency of more than 80 per cent over a range from 67 per cent to 120 per cent of normal capacity. These pumps are built for both horizontal and vertical shaft installations in a range of sizes from 3-inch to 42-inch and for any type of drive. Copies of this bulletin may be obtained by addressing Morris Machine Works, Baldwinsville, New York.

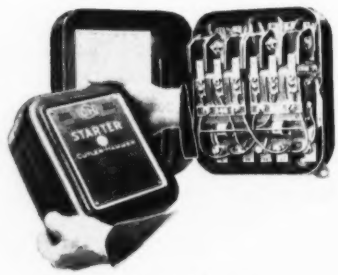
Gilmer Co. Issues New V-Belt Catalog

The L. H. Gilmer Company, Philadelphia, Pa., has issued a new 84 page, 8½ inch by 11 inch V-belt catalog. It comprises two sections, the first devoted to theoretical and practical illustrations of V-belts themselves and their operation in multiple drives for various classes of service.

The second, or Engineering section, introduces new, simple and original formulas for all V-belt calculations, detailed tables of drives, from fractional to several hundred hp., and a large chart for quickly determining center distances, belt lengths and useful data. This catalog is, in fact, a text book upon the subject. Free copies may be obtained from the Gilmer Company, Tacony, Philadelphia, Pa.

New Reversing Starter for Small Motors

The development of a new across-the-line type reversing starter for D. C. and A. C. polyphase motors up to three hp. is announced by Cutler-Hammer, Inc., 291 North 12th street, Milwaukee, Wis. These new starters are designed for use with motors on hoists, lifts, garage doors, small machine tools and other equipment where a half-time, intermittent duty reversing starter is required. Reversing is accomplished by means of two mechanically interlocked magnetic contactors which are controlled from a remote



REVERSING STARTER

point by means of a separate push button master station.

Small size and high operating efficiency are features of this new starter. Overall size is $7\frac{1}{16}$ inches wide by $8\frac{7}{16}$ inches high by $4\frac{7}{16}$ inches deep. The contactors are a new three pole design. Silver to silver contacts reduce arcing and pitting to a minimum and assure maximum current carrying capacity at all times. The magnet structure consists of a laminated frame with a shading coil for alternating current and a brass shield for direct current.

These enclosed reversing starters are furnished in two types: Type SRA is arranged for two wire control only. It has a maximum capacity of 1 HP. Type SRB can be used for either two or three wire remote control. Blowouts are provided to give maximum capacity of 3 HP.

Walworth Lubricated Plug Valves

Lubricated plug valves, for oil, gas, water and other industrial service, and lubricated service cocks for gas and air are now available from the Walworth Company, manufacturer of valves, fittings and pipe tools, of Boston, Mass. The addition of lubricated plug valves to the Walworth line followed the acquisition of basic patents by the company. This type of valve gives all of the much desired advantages of full, direct port opening with a quarter-turn of operating handle or wrench.

The valves are smooth-turning and can be throttled or opened wide at will. Tight seating is assured by the fit between plug and body and the lubricant seal, while the lubricant also prevents wear. The valves are available in practically all types and sizes and in metals suited for the services required. They are furnished for high as well as low pressures and for vacuums, suitable for air, oil, water, gasoline, gases, chemicals, hot tar, hot oils, etc.

The successful operation of lubricated valves is dependent to a great extent upon their proper lubrication, and Walworth Company engineers have developed several kinds of lubricant for various service conditions, with reference to pipe line contents, temperatures and other factors. Long life and a minimum amount of maintenance labor are assured by use of the correct lubricant.

Walworth lubricated plug valves may be operated with ordinary monkey wrenches, although special operating

handles are made and on larger sizes hand wheels are furnished. Planetary geared handles also can be furnished on certain sizes of valves.

A 20-page catalog was recently issued by Walworth, in which the full line of iron and steel lubricated plug valves for a wide range of pressures and uses was fully described and illustrated.

New Stainless Steel Booklet

"Stainless and Heat Resisting Steels" is the title of a new booklet just issued by five of the subsidiary companies of the United States Steel Corporation, viz., American Sheet & Tin Plate Company, Pittsburgh, Pa.; American Steel & Wire Company, Chicago, Ill.; Carnegie Steel Company, Pittsburgh, Pa.; Illinois Steel Company, Chicago, Ill.; and National Tube Company, Pittsburgh, Pa.

This interesting booklet describes in a concise manner the varied properties of the chromium and chromium-nickel alloy steels manufactured by the five companies and is profusely illustrated. These stainless steels are applied in the paper industry to blow pit bottoms, relief gas lines and coolers, acid circulation systems and digester linings.

New Safety Hoist

A high-speed Alcao aluminum alloy hoist, with patented overload governor to indicate and prevent dangerous overloading, is announced by the Chisholm-Moore Hoist Corporation, Tonawanda, New York. The new, automatic safety governor is designed to protect workmen, materials and machines. This patented feature warns against hoisting in excess of 50 per cent overload.

This new hoist, called the Al-Lite, is said to be a revolutionary step in hoist designing. It is a full third lighter than ordinary hoists of the same capacity, yet just as strong, as dependable and as efficient. One man can easily handle the Al-Lite, thereby eliminating the danger of two or three men on a ladder or scaffolding.

Other features are a bright red load hook, proof-tested Inswell chain, adjustable load brake, grease bath lubrication, tilting top hook, ball bearings at most important points, dust-proof, oil-tight housing.

New Gas Washing Device

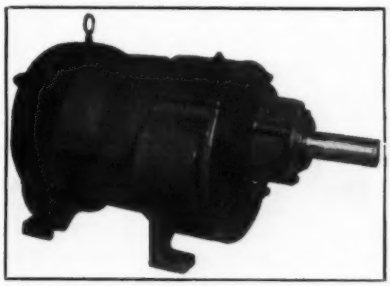
The paper manufacturer who makes, either white, coated, or news print, is surely and sorely victimized by the annoyances of smoke, soot, gas (odor), cinders, or fly ash, which pour continuously from the power plant smokestack. These annoyances not only pollute the surrounding atmosphere and damage buildings, etc., but also make impure the air the workers breathe and work in. And then to make matters worse a large amount of the filth settles on the paper product in the course of being manufactured, producing thereby defects in the product, complaints from customers, and a decrease in profit to the manufacturer, on account of the defects caused by the above annoyances from the smokestack. These stack annoyances can be eliminated to a percentage of from 75 per cent to 85 per cent, by the use of a gas washing device invented by A. W. Ellison, Engineer, Chicago.

The system, which consists essentially of washing the effluent gases of combustion, and entraining thereby the floating hydro-carbons, depositing the entrainment in the receiving trough, from which trough the entrainment and water flow to the circulating water tank, (or tanks) the entrainment is deposited in the circulating water tank as sludge, where it remains until the indicated time arrives for cleaning the tank. It is in this tank wherein is placed the neutralizing agent which removes the sulphurous odor from stack effluent. The circulating water is used over and over again until changing time is indicated by sludge deposit in water tank. The cost of the neutralizing agent is small. The system can be installed for a nominal investment, is simple in operation, low in power costs, and high in eliminative percentage.

Motorized Speed Reducers

Manufactured by the Production Equipment Company, of 5,219 Windsor Avenue, Cleveland, Ohio, One Profit Motorized Speed Reducers consist of a standard semi-enclosed motor integrally mounted with a speed reduction unit.

This unit, originated by the engineers of the company,



MOTORIZED SPEED REDUCER

occupies but a fraction of the space necessary for a speed reduction unit consisting of a motor, coupling, independent speed reducer and base. Its compact design allows easy handling and installation in restricted positions.

One Profit Motorized Speed Reducers are manufactured in three types suitable for a variety of applications. These units combine the advantages of high speed motor efficiency with quiet, rugged, low speed transmissions.

News Print Production for April

Production of news print paper in Canada during April 1931 amounted to 205,838 tons and shipments to 205,752 tons, according to the News Print Service Bureau. Production in the United States was 102,450 tons and shipments 101,819 tons, making a total United States and Canadian news print production of 308,288 tons and shipments of 307,571 tons. During April, 23,016 tons of news print were made in Newfoundland and 1,165 tons in Mexico, so that the total North American production for the month amounted to 332,469 tons.

The Canadian mills produced 92,733 tons less in the first four months of 1931 than in the first four months of 1930, which was a decrease of 11 per cent. The output in the United States was 66,599 tons or 14 per cent less than for the first four months of 1930. Production in Newfoundland was 4,206 tons or 5 per cent more in the first four months of 1931 than in 1930 and in Mexico 1,723 tons less, making a continental decrease of 156,849 tons or 11 per cent.

During April the Canadian mills operated at 64.0 per cent of rated capacity, United States Mills at 69.6 per cent, Newfoundland mills at 90.9 per cent and Mexican mills at 63.1 per cent, making a continental average of 67.0 per cent. Stocks of news print paper at Canadian mills totalled 39,754 tons at the end of April and at United States mills 34,289 tons, making a combined total of 74,043 tons which was equivalent to 4.1 days' average production.

Obituary

Col. E. M. Gilman

Colonel E. M. Gilman died suddenly in Brookline, Mass., on Saturday, May 16. Death was caused by hardening of the arteries and was unexpected. Colonel Gilman's wife died suddenly last Spring, shortly after her return from a holiday in St. Petersburg, Fla. This was a shock from which Colonel Gilman never fully recovered.

Colonel Gilman was president of the Francis D. Gilman Company, general paper merchants, of Providence, Rhode Island, a business founded by his father, Horace W. Gilman, in 1840. Colonel Gilman retired from active service some time ago, his son, Francis D. Gilman, who had entered the organization upon his graduation from Harvard, assuming full responsibility as manager and treasurer.

Colonel Gilman was high in Masonic circles and also was a member and past officer of the Ancient and Honorable Artillery of Boston.

Austin Wheeler Rogers

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., June 1, 1931—Austin Wheeler Rogers, salesman for the John A. Lowell Banknote Company, covering Boston and vicinity, and widely and favorably known in the paper trade, died in Milton, Mass., May 28, soon after he collapsed at Kilby and State streets here. His death was believed due to heat prostration. He was in his fiftieth year.

Mr. Rogers was born in Dorchester, Mass., and was a graduate of the Somerville, Mass., High School. For fifteen years he was with the American Banknote Company, Boston, as a steel plate transferer. Later he was with the Bay State Lithograph Company, which in 1924 merged with the John A. Lowell Banknote Company, and in all about twelve years with these companies. He was a man of high type and an efficient salesman.

A wife, Maud (Quincy) Rogers, and his mother, Elizabeth (Curtis) Rogers, are living. His funeral was held Sunday at his late residence, 44 Parkway Crescent, Milton.

Edward T. Sawyer

Edward T. Sawyer, treasurer of the Perkins & Squier Company, 225 West 34 street, New York, died at his home in Hackensack, N. J., on Thursday, May 28, after an illness of several months.

In 1881 he entered the employ of Perkins & Goodwin, continuing with them until he associated himself with the Perkins & Squier Company in 1905, becoming later the treasurer of this company, which position he filled with great credit.

In March of this year he rounded out his fifty years of continuous service in the paper business—a long and honorable career.

Brotherhood Tabulates Vote

ALBANY, N. Y., May 11, 1931.—Voting is now under way in the various unions in this country and Canada affiliated with the International Brotherhood of Papermakers relative to a number of propositions endorsed at the recent convention and full returns are expected to reach this city by the end of the week. The canvassing board of the local body plans to meet here this week for the purpose of making a complete tabulation of the vote. The members of this board include William Bilson, of Niagara Falls, John R. Jones, of Troy, and M. J. McLain, of Holyoke. It is expected that a greater portion of the members will participate in the voting.

Dexter Wins Income Tax Case

DEXTER, N. Y., May 23, 1931.—A decision just handed down by the United States Board of Tax Appeal in favor of the Howland Bag and Paper Company, Dexter Sulphite Pulp and Paper Company and the Dexter & Northern Railroad Company has settled an income tax dispute which has been in progress with the Internal Revenue Department for the past several years. The controversy between these corporations and the federal bureau came about as the result of a deal made in 1920 between them and William R. Hearst, publisher, and subsequently breached by the latter with the payment of large damages by him. The question of whether or not this amount was taxable arose, if so in what year, and if it was permissible to file a consolidated return in 1924 covering the business of the above companies for the preceding three years.

Under finding of the Internal Revenue Department it was decided that the sum could be taxed as profits of 1923 and the local company by filing individual returns from 1920 to 1923 had elected to forego its right to a consolidated return basis. The petitioning companies asked to be advised on the question of taxation on the damages, claimed they were taxable if at all in 1924 when a settlement became final, and declared a consolidated return was not possible in 1921-1923 because the companies were being litigated which made election impossible. The Board of Tax Appeals upheld the local concerns on the claim of right to file a consolidated return and on the taxability of the damages in 1924, but responded with an unequivocal yes on the question of taxability.

Statistics show that the local paper company and its subsidiaries entered into an agreement with Mr. Hearst in 1920 whereby its assets were to be transferred, minus the franchise and some securities, at an agreed figure. Later on Mr. Hearst decided that he would not go through with the transaction which resulted in court proceedings. After much wrangling and legal war it was finally agreed that the case would be settled by allowing the local concern to retain its assets and $100,000, part payment, besides receiving $755,000 to compensate for damages arising from the suspension of its business to make ready for the production of newsprint, the object of the proposed deal. The local paper company had reported its profits on other holdings during the years in question but the heavy losses sustained by its subsidiaries would, in a consolidated return, eliminate the tax liability.

Roessler & Hasslacher Price List

The price list of the Roessler & Hasslacher chemical Company, Niagara Falls, N. Y., has gone modern. It is now in modern size—convenient for pocket or pigeon hole. This new 32-page booklet, will be issued quarterly, replacing the former monthly folder so favorably received by the chemical industry for over 40 years.

The new price list contains concise and reliable information on over 200 chemicals, manufactured and sold by R. & H. It has been designed to assist the purchaser, presenting in a convenient form, data which will aid in the selection of chemicals.

It is a veritable handbook of facts. Constants, specifications, properties, specific applications, containers and prices—all can be found here quickly and conveniently. Included in the list are chemicals for: case hardening; Heat Treatment of Steel; Electroplating; Refrigeration; Bleaching; Dry Cleaning; Ceramic; Rubber; Fumigation—in fact, chemicals for all industries.

Free copies are available upon request.

FAIRBANKS

OFFERS A NEW

"SPHERO" VALVE

ACCESSIBILITY: **Removal and replacement of Seat Rings and Ball Plug effected without removing the body of the valve from the pipe line.**

ADJUSTABILITY: **Exact adjustment of the Seat Rings accomplished by a simple turn of the wedge adjusting screw.**

OPERATION: **Universal in its application. Quick-opening, requiring only a quarter turn to open or close. Gives a leakproof, tight seal on any service.**

Available in any metal that can be cast. Made in sizes ½" to 8" inclusive; ½" to 4" are lever operated; 4", 6" and 8" are worm-and-gear operated.

Write for Descriptive Bulletin V-103.

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SILICATE OF SODA

THE most popular formula for acidproofing cement for pulp digesters specifies "U" Brand Silicate of Soda. When you next reline your sulphite digesters use "U" Brand to make up the acidproof cement.

It's acid-resistant and thoroughly dependable. Tested formula furnished with each shipment.

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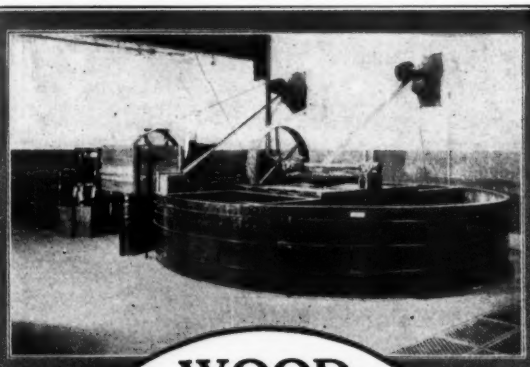
1831—BEGINNING ANOTHER CENTURY—1931

No. 2 of series



WOOD TANKS

Last a Life-Time

Illustration shows Cylindrical Pulp Tanks for Paper Mills. Equipped with Agitators. Specially constructed or irregular shaped tanks can be supplied and prices quoted on receipt of specifications or drawings. This organization has been building tanks of every description for more than fifty-five years and its products have gone to all parts of the United States, Canada, South America, Europe, Africa and Australia. A large stock of the various kinds of tank lumber is carried in our yards and allowed to air season thoroughly before being used. Our factory is up-to-date in every respect and is completely equipped with the most modern machinery, driven by individual motors. Wood tanks built to your own specifications.

The **HAUSER-STANDER TANK CO.**

Cincinnati, Ohio

IMPORTS OF PAPER AND PAPER STOCK

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING MAY 30, 1931

SUMMARY

Cigarette paper	2768 cs.
Wall paper	7 bls., 16 cs.
Wall board	1 cs.
Paper hangings	7 bls., 1 cs.
News print	2212 rolls
Printing paper	99 cs.
Wrapping paper	4 cs.
Packing paper	13 cs.
Decalcomania paper	27 cs.
Filter masse	50 bls.
Filter paper	12 cs.
Drawing paper	11 cs.
Surface coated paper	93 cs.
Coated paper	8 cs.
Metal coated paper	26 cs.
Aluminum paper	16 cs.
Photo paper	2 cs.
Colored paper	108 cs.
Veline paper	6 cs.
Tissue paper	27 cs.
Writing paper	2 cs.
Envelopes	25 cs.
Paraffine paper	2 cs.
Bristol board	8 cs.
Stencil paper	5 cs.
Card board	4 bxs., 220 cs.
Card board boxes	1 cs.
Paste board	24 cs.
Miscellaneous paper	107 rolls, 196 cs.

CIGARETTE PAPER

De Manduit Paper Corp., Waukegan, Havre, 250 cs.
Brown & Williamson Tobacco Corp., France, Havre, 5 cs.
American Tobacco Co., Indep. Hall, Bordeaux, 1272 cs.
De Manduit Paper Corp., Indep. Hall, St. Nazaire, 1241 cs.

WALL PAPER

Universal Car Loading Co., Berlin, Bremen, 1 cs.
——, Berlin, Bremen, 4 bls.
R. F. Downing & Co., Majestic, Southampton, 6 cs.
W. H. S. Lloyd & Co., N. Amsterdam, Rotterdam, 1 cs.
Irving Trust Co., New York, Hamburg, 8 cs.
F. J. Emmerich, New York, Hamburg, 3 bls.

WALL BOARD

Pagel Horton & Co., Inc., Gripsholm, Gothenburg, 1 cs.

PAPER HANGINGS

A. C. Dodman, Jr., Inc., Laconia, Liverpool, 4 bls.
Whiting & Patterson Co., Inc., Berengaria, Southampton, 3 bls., 1 cs.

NEWS PRINT

Jay Madden Corp., Berlin, Bremen, 337 rolls.
Argosy, Helsingfors, 673 rolls.
Stora Kopperberg Corp., Gripsholm, Gothenburg, 55 rolls.
Lunham & Reeve, Carlsholm, Hango, 306 rolls.
——, G. Washington, Hamburg, 183 rolls.
Jay Madden Corp., G. Washington, Hamburg, 140 rolls.
Baldwin Paper Co., New York, Hamburg, 145 rolls.
——, New York, Hamburg 204 rolls.
Perkins Goodwin & Co., New York, Hamburg, 349 rolls.

PRINTING PAPER

C. Steiner, Berlin, Bremen, 15 cs.
P. C. Zuhlke, Belgenland, Antwerp, 15 cs.
E. Dietzgen & Co., Inc., N. Amsterdam, Rotterdam, 13 cs.
E. Dietzgen & Co., Inc., N. Amsterdam, Rotterdam, New York, Hamburg, 28 cs.
——, Milwaukee, Hamburg, 12 cs.
International F'd'g. Co., J. Jadot, Antwerp, 16 cs.

WRAPPING PAPER

Sylvania Industrial Corp., Belgenland, Antwerp, 4 cs.

PACKING PAPER

Atlantic F'd'g. Co., New York, Hamburg, 13 cs.

DECALCOMANIA PAPER

Phoenix Shipping Co., Berlin, Bremen, 2 cs.
B. F. Drakenfeld & Co., Laconia, Liverpool, 2 cs. (simplex); 19 cs. (duplex).
C. W. Sellers, Bremen, Bremen, 4 cs.

FILTER MASSE

A. Giese & Son, Berlin, Bremen, 50 bls.

FILTER PAPER

H. Reeve Angel & Co., Inc., Lancastria, London, 12 cs.

DRAWING PAPER

Devoe & Reynolds Co., Inc., Lancastria, London, 5 cs.
Keuffel & Esser Co., Lancastria, London, 4 cs.
J. Henschel & Co., New York, Hamburg, 2 cs.

SURFACE COATED PAPER

Gevaert Co. of America, Belgenland, Antwerp, 93 cs.

COATED PAPER

W. A. Foster & Co., Lancastria, London, 4 cs.
Bush Service Co., Milwaukee, Hamburg, 4 cs.

METAL COATED PAPER

K. Pauli Corp., New York, Hamburg, 25 cs.
F. C. Gerlach, New York, Hamburg, 1 cs.

ALUMINUM PAPER

W. von Doorn, N. Amsterdam, Rotterdam, 16 cs.

PHOTO PAPER

Medo Photo-Supply, Majestic, Southampton, 2 cs.

COLORED PAPER

F. L. Kramer, Berlin, Bremen, 1 cs.
D. F. Young, Milwaukee, Hamburg, 3 cs.
E. Dietzgen & Co., Inc., New York, Hamburg, 103 cs.
Gerhard & Hey, New York, Hamburg, 4 cs.

VELINE PAPER

C. L. Voorhees, Pres. Polk, Genoa, 6 cs.

TISSUE PAPER

S. Stern Stiner & Co., Lancastria, London, 1 cs.
C. L. Voorhees, Laconia, Liverpool, 6 cs.
Parsons & Whittemore, Inc., Laconia, Liverpool, 15 cs.
P. J. Schweitzer, Pres. Polk, Marseilles, 3 cs.
W. J. Byrnes, Berengaria, Southampton, 2 cs.

WRITING PAPER

Globe Shipping Co., Franc, Havre, 1 cs.
Meadows Wye & Co., Berengaria, Southampton, 1 cs.

ENVELOPES

J. Beckhard, Berlin, Bremen, 25 cs.

PARAFFINE PAPER

A. vander Meye, N. Amsterdam, 2 cs.

BRISTOL BOARD

Keuffel & Esser Co., Lancastria, London, 8 cs.

STENCIL PAPER

1st National Bank of Boston, New York, Hamburg, 5 cs.

CARD BOARD

Gevaert Co. of America, Belgenland, Antwerp, 4 bxs.
American Express Co., New York, Hamburg, 220 cs.

CARD BOARD BOXES

P. Seguin, Pres. Polk, Marseilles, 1 cs.

PASTE BOARD

H. Heide, Inc., Berlin, Bremen, 24 cs.

MISCELANEOUS PAPER

Gallagher & Ascher, American Farmer, London, 1 cs.
The Borregaard Co., Inc., Gripsholm, Gothenburg, 107 rolls.
Globe Shipping Co., N. Amsterdam, Rotterdam, 1 cs.
American Express Co., France, Havre, 4 cs.
P. J. Schweitzer, France, Havre, 4 cs.
Houbigant, Inc., France, Havre, 5 cs.
Standard Products Corp., France, Havre, 25 cs.
Liggett & Myers Tobacco Co., France, Havre, 19 cs.
Keller Dorian Paper Co., France, Havre, 14 cs.
Japan Paper Co., Pr. Polk, Genoa, 8 cs.
American Express Co., New York, Hamburg, 115 cs.

RAGS, BAGGINGS, ETC.

Castle & Overton, Inc., Waukegan, Havre, 41 bls. rags; 56 bls. bagging.
Irving Trust Co., Waukegan, Havre, 29 bls. new cuttings.
V. Galaup, Waukegan, Havre, 12 bls. new cuttings.
Darmstadt Scott & Courtney, Waukegan, Havre, 77 bls. jute waste.
Chase National Bank, Belgenland, Antwerp, 39 bls. paper paste.
Castle & Overton, Inc., Olympia, B. Ayres, 153 bls. rags.
New York Trust Co., Lancastria, London, 48 bls. rags.
Irving Trust Co., Ambridge, Antwerp, 140 bls. bagging.
M. Snedeker Corp., Bellhaven, Belfast, 296 bls. paper stock.
H. G. Lichtenstein, Indep. Hall, Bordeaux, 92 bls. rags.
Castle & Overton, Inc., Indep. Hall, St. Nazaire, 79 bls. rags.
E. J. Keller Co., Inc., Indep. Hall, ——, 63 bls. rags.
M. Steinberg & Son, Inc., Bannack, Manchester, 60 bls. new rags.

OLD ROPE

Banco Com'l Italiana Trust Co., Keifuku Maru, Hamburg, 57 coils.
Banco Com'l Italiana Trust Co., Kyno, Hull, 96 coils.

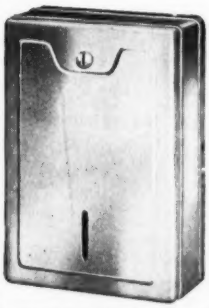
CHINA CLAY

Whitaker, Clark & Daniels, Bellhaven, Avonmouth, 325 bags, 25 tons.

WOOD PULP

Ekman & Co., New York, Hamburg, 265 bls. wood pulp, 53 tons.
Guaranty Trust Co., New York, Hamburg, 307 bls. wood pulp, 62 tons.
Castle & Overton, Inc., New York, Hamburg, 1061 bls. wood pulp, 211 tons.
Lagerloef Trading Co., Argosy Helsingfors, 930 bls. sulphite, 158 tons.
Bulkley, Dunton & Co., Hjelmaren, ——, 500 bls. wood pulp.

(Continued on page 62)



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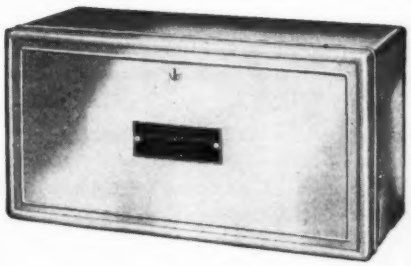
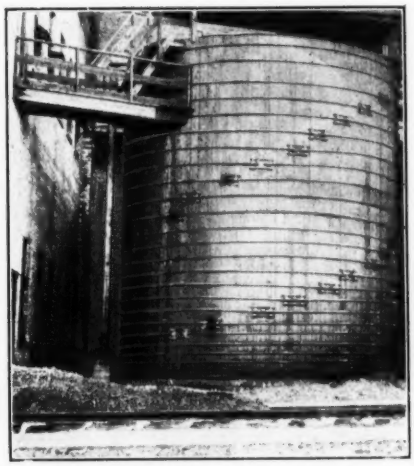


GRIFFITH-HOPE CO., West Allis, Wisc.

TANKS THAT LAST



Acid tank at Nekoosa-Edwards Paper Company, Pt. Edwards, Wis.

Kalamazoo tanks are made of best obtainable tank woods, built right, guaranteed tight.

Sixty years experience building Blow Pits, Acid Tanks, Stuff Chests, Agitators, etc., for the Paper Trade.

Ask about our new Tile Tanks for stock or bleach.

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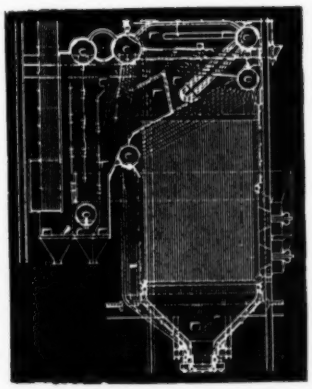
THE MURRAY DOUBLE KNOT SAW—

WITH the Murray Double Knot Saw, two men can cut knots out of round or split wood quicker and better than a crew of men with hatchets. This efficient machine works equally well on round or split hemlock, spruce or other woods. It cuts the knots out cleanly without wasting wood. (Note illustrations.)

The Murray Double Knot Saw is substantially built for easy operation and maximum safety. Saws available for ready removal. Stands the gaff of the hardest use.

We will give you a list of satisfied users if you would like to investigate. Or write us direct for further information and prices.

D. J. MURRAY MANUFACTURING COMPANY
WAUSAU WISCONSIN



BADENHAUSEN STEAM GENERATING UNITS

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MAXIMUM STEAM
AT
HIGHEST EFFICIENCY
WITH
LEAST CAPITAL INVESTMENT and OPERATING COSTS

Result:—Enormous savings in cost of pulp and paper produced.

BADENHAUSEN CORPORATION
General Offices and Works
CORNWELLS HEIGHTS (PHILA.), PA.

Imports of Paper and Paper Stock

(Continued from page 60)

Stora Kopperberg Corp., Hjelmaren, Skutskar, 1025 bls. wood pulp.
Perkins, Goodwin & Co., Hjelmaren, Sundsvall, 1375 bls. sulphite.
Russell McCandless, Gripsholm, Gothenburg, 450 bls. unbleached sulphite.
M. Gottesman & Co., Inc., Gripsholm, Gothenburg, 1050 bls. sulphite.
J. Andersen & Co., Gripsholm,, Gothenberg 375 bls. sulphite.
Parsons & Whittemore, Inc., Gripsholm, Gothenburg, 360 bls. sulphate.
E. M. Sergeant & Co., Gripsholm, Gothenburg, 4501 bls. kraft pulp.
Castle & Overton, Inc., N. Amsterdam, Rotterdam, 340 bls. wood pulp.
Parsons & Whittemore, Inc., Milwaukee, Hamburg, 100 bls. wood pulp.
Lagerloef Trading Co., Chickasaw, Helsingfors, 40 bls. sulphate, 6 tons; 190 bls. sulphite, 32 tons.
Pagel, Horton & Co., Inc., Chickasaw, Gefle, 4625 bls. sulphite, 837 tons.
Stora Kopperberg Corp., Chickasaw, Gefle, 162 drs, 101 bls. residue.
Atterbury Bros., Inc., Chickasaw, Stockholm, 150 bls. chemical pulp, 25 tons.
Brown Bros., Harriman Co., Keifuku, Maru, Hamburg, 442 bls. wood pulp, 78 tons.
——, Keifuku Maru, Hamburg, 734 bls. wood pulp, 112 tons.
Castle & Overton, Inc., Keifuku Maru, Hamburg, 188 bls. wood pulp, 28 tons.
Lagerloef Trading Co., Carlsholm, Hango, 1535 bls. sulphite; 690 bls. sulphate.
Atterbury Bros., Inc., Carlsholm, Hango, 330 bls. sulphate.
Lagerloef Trading Co., Carlsholm, Hango, 1040 bls. mechanical pulp.
Russell McCandless, Koeln, Hamburg, 307 bls. wood pulp.

WOOD PULP WADDING

Bendix Paper Co., N. Amsterdam, Rotterdam. 25 cs.

WOOD FLOUR

Innes Speiden & Co., Gripsholm, Gothenburg. 508 bags.
B. L. Soberski, N. Amsterdam, Rotterdam, 2,000 bags.
State Chemical Co., N. Amsterdam, Rotterdam. 300 bags.

WOOD PULP BOARDS

Lagerloef Trading Co., Carlsholm, Hango, 246 bls.

PHILADELPHIA IMPORTS

WEEK ENDING MAY 30, 1931

The Borregaard Co., Inc., Argosy, Gothenburg, 5 bls., 42 rolls paper.
Parsons & Whittemore, Inc., Argosy, Gothenburg, 600 bls. sulphite; 821 bls. mechanical pulp.
Perkins, Goodwin & Co., Argosy, Gothenburg, 508 bls. sulphate.
Lagerloef Trading Co., Argosy, Helsingfors, 4194 bls. sulphite, 798 tons.
Lagerloef Trading Co., Argosy, Gothenburg, 50 bls. sulphite, 10 tons.
Lagerloef Trading Co., Argosy, Helsingfors, 166 bls. wood pulp boards.
Stora Kopperberg Corp., Hjelmaren, Skutskar, 3350 bls. wood pulp.
Union Waste Co., Toba Maru, Kobe, 179 bls. rags; Leipheimer, Inc., Toba Maru, Kobe, 10 bls. rags.
J. M. Hagy, Waste Works, Toba Maru, Kobe, 50 bls. cotton waste.
A. Hurst & Co., Indep. Hall, Bordeaux, 24 bls. rags.
Katzenstein & Keene, Inc., Indep. Hall, Bordeaux, 257 bls. rags.
Katzenstein & Keene, Inc., Indep. Hall, St. Nazaire, 91 bls. rags.
V. Galaup, Indep. Hall, St. Nazaire, 184 bls. rags.

NORFOLK IMPORTS

WEEK ENDING MAY 30, 1931

——, Maryland, London, 5 cs. tissue paper.

HOUSTON IMPORTS

WEEK ENDING MAY 30, 1931

——, Karlsruhe, Bremen, 72 bls. bagging.

BOSTON IMPORTS

WEEK ENDING MAY 30, 1931

Oxford University Press, Laconia, Liverpool, 3 cs. printing paper.
G. F. Malcolm, Laconia, Liverpool, 20 cs. tissue paper.
W. A. Feinberg & Son, Toba Maru, Kobe, 100 bls. rags.
W. A. Wood & Co., Toba Maru, Kobe, 20 bls. rags.
F. Fawcett, Ambridge, Antwerp, 85 bls. flax tow; 264 bls. flax waste.
Leigh Textile Co., Ambridge, Antwerp, 21 bls. thread waste.
Irving Trust Co., Ambridge, Antwerp, 70 bls. paper stock.
1st National Bank of Boston, Ambridge, Antwerp, 31 bls. cotton waste.
H. P. Lambert, Ambridge, Antwerp, 60 bls. rags.
Forte Dupee Sawyer, Ambridge, Antwerp, 17 bls. rags.
Brown Bros., Harriman Co., Ambridge, Antwerp, 67 coils old rope.
American Express Co., Ambridge, Antwerp, 181 rolls paper.
Lagerloef Trading Co., Chickasaw, Helsingfors, 835 bls. sulphite, 157 tons; 510 bls. sulphate, 85 tons.
Atterbury Bros., Inc., Chickasaw, Helsingfors, 660 bls. cellulose, 110 tons.
Pagel, Horton & Co., Inc., Chickasaw, Gefle, 750 bls. sulphite, 75 tons.
Bulkley, Dunton & Co., Chickasaw, ——, 500 bls. wood-pulp, 101 tons.
Atterbury Bros., Inc., Chickasaw, Stockholm, 150 bls. chemical pulp, 25 tons.
Atkinson, Haserick & Co., Pres. Polk, Genoa, 11 cs. paper.
American Express Co., Pres. Polk, Genoa, 161 bls. card board.
E. Butterworth & Co., Inc., Maryland, London, 74 bls. waste paper.
Brown Bros., Harriman & Co., Maryland, London, 209 coils old rope.
Brown Bros., Harriman & Co., Maryland, London, 10 bls. waste paper.
Baring Bros. & Co., Maryland, London, 129 bls waste paper.
1st National Bank of Boston, Maryland, London, 67 bags casein.
Brown Bros., Harriman & Co., Kyno, Hull, 251 coils old rope.
Brown Bros., Harriman & Co., Argosy, Helsingfors, 172 bls. yarn.
Bulkley, Dunton & Co., Malaren, ——, 2500 bls. wood pulp.

PORTLAND IMPORTS

WEEK ENDING MAY 30, 1931

Lagerloef Trading Co., Chickasaw, Helsingfors, 3509 bls. sulphite, 432 tons; 312 bls. sulphate, 53 tons.
Pagel, Horton & Co., Inc., Chickasaw, Gefle, 2500 bls. sulphate, 508 tons; 2500 bls. sulphite, 508 tons.
Stora, Kopperberg Corp., Chickasaw, Gefle, 375 bls. wood pulp, 75 tons.
Bulkley, Dunton & Co., Chickasaw, ——, 1250 bls. wood pulp, 254 tons.
Bulkley, Dunton & Co., A. Leonhardt, ——, 500 bls. wood pulp.

BALTIMORE IMPORTS

WEEK ENDING MAY 30, 1931

Congoleum Nairn Co., Waukegan, Havre, 122 bls. rags.
United Rag & Paper Exchange, Waukegan, Dunkirk, 26 bls. rags.
Lagerloef Trading Co., Argosy, Helsingfors, 1248 bls. sulphite.
M. Gottesman & Co., Inc., Argosy, Gothenburg, 750 bls. sulphite.
Parsons & Whittemore, Inc., Argosy, Gothenburg, 1650 bls. sulphite.
E. M. Sergeant & Co., Argosy, Gothenburg, 1196 bls. kraft soda pulp.
Johaneson Wales & Sparre, Inc., Argosy, Gothenburg, 2392 bls. kraft soda pulp.
Perkins, Goodwin & Co., Argosy, Gothenburg, 889 bls. sulphite.
M. Gottesman & Co., Inc., Argosy, Stockholm, 750 bls. sulphite.
Price & Pierce, Ltd., Argosy, Stockholm, 3160 bls. sulphite, 401 tons.
Hubbs, Corning & Co., Hjelmaren, Norrkoeping, 16 bls. paper.
Bulkley, Dunton & Co., Hjelmaren, ——, 2,000 bls. wood pulp.
Pagel, Horton & Co., Inc., Hjelmaren, Gefle, 3,000 bls. sulphite.
Stora, Kopperberg Corp., Hjelmaren, Skutskar, 2125 bls. wood pulp; Hjelmaren, Norrsundet, 4500 bls. sulphite.
Perkins, Goodwin & Co., Hjelmaren, Sundsvall, 3635 bls. sulphite.
Bulkley, Dunton & Co., Carlsholm, ——, 3,000 bls. wood pulp.
Lagerloef Trading Co., Carlsholm, Hango, 11,881 bls, sulphite; 1760 bls. mechanical pulp; 1683 bls. sulphate.
Parsons & Whittemore, Inc., Carlsholm, Hango, 300 bls. wood pulp.
Atterbury Bros., Inc., Carlsholm, Hango, 600 bls. wood pulp.
National City Bank, Maryland, London, 219 bls. rags.
Baring Bros. & Co., Maryland, London, 48 Coils old rope.
Congoleum Nairn Co., Indep. Hall, Bordeaux, 77 bls. rags.

NEWPORT NEWS IMPORTS

WEEK ENDING MAY 30, 1931

Atterbury Bros., Inc., Argosy, Helsingfors, 330 bls. cellulose.
News Publishing Co., Argosy, Gothenburg, 95 rolls news print.
Johaneson, Wales & Sparre, Inc., Argosy, Gothenburg, 598 bls. kraft sulphate pulp.
Perkins, Goodwin & Co., Argosy, Gothenburg, 3018 bls. sulphate pulp; 2570 bls. kraft pulp.
Atterbury Bros., Inc., Argosy, Stockholm, 2,000 bls .sulphate, 406 tons.

Estate of Dr. Clarence W. Campbell

[FROM OUR REGULAR CORRESPONDENT]

DEXTER, N. Y., June 1, 1931—The will of Dr. Clarence W. Campbell, until his death vice president and general manager of the Dexter Sulphite Pulp and Paper Company, was filed for probate in Surrogate's Court this week and revealed that he left an estate amounting to about $250,000. It was drawn up by the firm of Phelps & Hudson in March 1929. The petition for probate estimates the personal property in excess of $10,000 and the real property in excess of a similar amount. The entire estate is bequeathed to relatives and there are no public bequests.

The widow, Mrs. Alice M. Campbell, is bequeathed one-third of his capital stock holdings in the Dexter Sulphite Pulp and Paper Company, with all other stocks, mortgages and bonds. Under terms of the will all his real estate, including the Watertown home, are also bequeathed to Mrs. Campbell. To her is bequeathed all of his personal effects located in the city.

Dr. J. E. Campbell, a brother is bequeathed one-third of his capital stock in the Dexter Sulphite Pulp and Paper Company, and also a number of personal belongings. His mother, Mrs. E. W. Campbell, of New York City, receives one-third of his holdings in the local paper company and valuable jewelry.

AMIJEL

AMIJEL is not an ordinary beater starch. It is a specially processed pure gelatinized starch, free from knots and lumps.

The absence of colloidal particles gives your sheet a clear finish and because of Amijel's great adhesive qualities it also increases the tensile strength of the paper.

Amijel does not have to be cooked, just add cold water and mix.

CORN PRODUCTS REFINING COMPANY
17 Battery Place, New York City

SOLVAY PRODUCTS

SODA ASH
CAUSTIC SODA

Liquid Chlorine
Contract or Spot Delivery
In tank cars and multiple unit cars.
Write for Prices

SOLVAY SALES CORPORATION
Alkalies and Chemical Products Manufactured by The Solvay Process Company
61 Broadway New York
Boston Syracuse Chicago Indianapolis Cleveland
Cincinnati Pittsburgh Detroit Philadelphia
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* Trade Mark Reg. U. S. Pat. Off.

White Tile
Acid Tank
LININGS

Blow Pit
Jenssen Tower
Combustion Chamber
LININGS

Sulphite, Soda and Kraft
Digester
LININGS

Protect your equipment
with Stebbins Bonded
LININGS

STEBBINS
Engineering & Manufacturing Company
WATERTOWN, New York
SEATTLE, Washington

West Virginia Pulp and Paper Company

Manufacturers of

SUPERCALENDERED
and
MACHINE FINISHED BOOK
and LITHOGRAPHIC
PAPERS

Offset, Envelope, Bond, Writing Cover and Music Paper, High Grade Coated Book, Index Bristol, Post Card, Kraft and Label Papers

also

Bleached Spruce Sulphite and Soda Kraft Pulp

230 Park Ave. New York
35 East Wacker Drive Chicago
503 Market St., San Francisco, Cal.
Sixth and Chestnut Sts., Philadelphia, Pa.

New York Market Review

Office of the PAPER TRADE JOURNAL,
Wednesday, June 3, 1931.

The local paper market was rather quiet during the past week. Demand for the various standard grades was light, with the exception of seasonal products, which are moving in good volume. Sales forces of the leading paper organizations are fairly optimistic over the future. Prices are somewhat irregular at present.

Production of news print paper is being maintained at approximately 64 per cent of rated capacity in the United States and Canada, according to information gathered by the News Print Service Bureau. Shipments are going forward at only 58 per cent of rating, due mainly to temporary shortage of vessel facilities. The price situation continues unchanged.

The paper board market exhibited a weaker undertone. Prices, in some instances, are easier. Little change was noticed in the fine paper market, which is holding up as well as can be expected. Tissues are moving in seasonal volume. The coarse paper market is spotty, although kraft wrapping paper is in fair request for the time of year.

Mechanical Pulp

Conditions in the ground wood market are fairly satisfactory, considering the prevailing business depression. While demand for both domestic and imported ground wood is only moderate, offerings are not excessive. There are a fair number of inquiries for future needs around. Prices are generally holding to schedule, without difficulty.

Chemical Pulp

Due to curtailment of production in Sweden, and the continuance of the pulp mill workers strike in Norway, the statistical position of the chemical pulp market is stronger. Kraft pulp is in better demand, sales having increased gradually during the past few weeks. The position of the other grades of domestic and imported chemical pulp is practically unchanged.

Old Rope and Bagging

The old rope market is arousing little interest at present. Demand from the paper mills for domestic or imported old manila rope is restricted. Small mixed rope continues quiet. The price situation, however, is unchanged. Some improvement was noticed in the bagging market, with both scrap and gunny in better request. Roofing bagging is somewhat firmer.

Rags

Most of the business transacted in the domestic rag market consisted of small lots for immediate requirements. Demand for cotton rags is light. Mixed rags are dull. Roofing rags are displaying a steadier trend, due to seasonal request, and offerings are not excessive. Prices on most of the grades of domestic and imported paper making rags are nominal.

Waste Paper

Board mill demand for No. 1 mixed paper continues persistent, and, as offerings are scarce, this grade is decidedly firmer. Old kraft machine compressed bales are in satisfactory request. Hard white and soft white shavings are steady. White envelope cuttings are moving in fair volume. Book stock is going forward in moderate volume.

Twine

Seasonal conditions prevail in the local twine market. Demand for the various grades is moderately active and supplies are going forward in a fairly satisfactory manner. Prices are generally holding to formerly quoted levels although competition for extra desirable orders is keen.

Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., June 3,, 1931.—The Government Printing Office has announced the following paper awards.

For 33,500 pounds (250,000 sheets) of 24 x 38, 134, 75 per cent rag, laid Antique book paper at 12.75 cents per pound, to the American Writing Paper Company, bids received May 18.

For 80,000 pounds (36,000 sheets) of No. 2 quality binders board, various weights, at 32.225 cents per pound, to the Mathers-Lamm Paper Company, bids received May 13.

For 32,760 pounds (140,000 sheets) of 38 x 48 supercalendered map paper to the Stanford Paper Company, at 8.75 cents per pound, bids for which were received on May 11.

For 10,000 pieces of 8 x 11½ fibre board at 13 cents per pound, to Herbert Lindemeyr, bids for which were received on May 10.

For 5,000 pounds (50,000 sheets) of 75 per cent rag, white Antique laid book paper, 20½ x 29, at 12.47 cents per pound, to the Whitaker Paper Company, bids for which were received on May 6.

For 5,000 pounds (5,000 sheets) of 26 x 38, No. 50 lined strawboard to the R. P. Andrews Paper Company, at 3.645 cents per pound, bids for which were received on April 29.

For 2,400 pounds (25,000 sheets) of 20 x 25, 50 per cent rag Antique cover paper to the R. P. Andrews Paper Company, at 8.24 cents per pound, bids for which were received on April 15. Also for 300 sheets of mat board, bids received on the same date to Dietzgen Company, Inc., at $194.70 per M sheets.

For 40,000 sheets of No. 2 quality hard rolled binders board to the R. P. Andrews Paper Company, at 33 cents per pound, bids for which were received on March 25.

Nashwaak Pulp Mill May Reopen

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., June 1, 1931.—From Saint John, N. B., strong hopes are expressed that efforts now being made to have the Nashwaak Pulp mill at Saint John reopened, will meet with success. The mill was closed last October. The mill has four digesters and two dry machines with a capacity of 180,000 lbs. of bleached sulphite fiber per 24 hours.

Union Screen Plate Company

Fitchburg, Mass., U. S. A. Lennoxville, P. Q., Canada

UNION BRONZE

SCREEN PLATES FOR FLAT SCREENS

6 SLOTS—5 SLOTS—4½ SLOTS—4 SLOTS—PER INCH

Old Plates Reclosed and Re-cut to Accurate Gauge
Rolled Phosphor Bronze and Copper Plates for Rotary Screens

Sole Manufacturers of the Union Witham Screen Plate Vat and Fastener

PAPER MAKERS' DRYER FELTS TRIUNE and MULTIPLE PLY

Serve every Felt Purpose in an efficient and satisfactory way.

60" to 288"

ENGLISH or BAKER WOVEN

Made in three, four, five and six ply—60" to 214" wide.

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FITCHBURG, MASS.

For 87 Years Makers of Fine Faced Felts For Papermakers

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"EXCELSIOR" FELTS

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PULP AND PAPER

We continue to maintain at the top the quality of Excelsior Felts, as we have done since we, as pioneers, made the first endless paper machine felts manufactured in America

Seamless felts for fast running.
Satin Style felts for finish.
Special felts to meet every condition.
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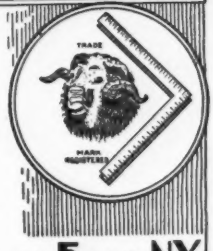
3 FEATURES of our "TOP FELTS for BOARD MACHINES"

A Trial Felt for Your Machines Will Prove These Facts.



THE WATERBURY FELT CO., SKANEATELES FALLS, N.Y.

Miscellaneous Markets

Office of the PAPER TRADE JOURNAL,
Wednesday, June 3, 1931

BLANC FIXE.—Trading in the blanc fixe market is fairly active. Shipments against contract are moving in seasonal volume. The pulp is still quoted at from $42.50 to $45 per ton, while the powder is selling at from 3¾ cents to 4½ cents per pound, in barrels, at works.

BLEACHING POWDER.—The position of the bleaching powder market is practically unchanged. Contract shipments are going forward at a normal pace. Prices generally remain unaltered. Bleaching powder is quoted at from $2 to $2.35 per 100 pounds, in drums, at works.

CASEIN.—Demand for casein is light. Domestic standard ground is still quoted at 7 cents and finely ground at 8½ cents per pound. Argentine standard ground is selling at 9 cents and finely ground at 10 cents per pound, all in bags, car lot quantities.

CAUSTIC SODA.—The caustic soda market is displaying a steady trend. Prices are holding to schedule. Solid caustic soda is selling at from $2.50 to $2.55, while the flake and the ground are quoted at from $2.90 to $2.95 per 100 pounds, in large drums, at works.

CHINA CLAY.—Steadiness prevails in the china clay market. The contract movement is well up to average. Prices are unchanged. Imported china clay is quoted at from $13 to $21 per ton, ship side; while domestic paper making clay is selling at from $7 to $11 per ton, at mine.

CHLORINE.—The chlorine market was rather quiet during the past week. Shipments against contract, however, continue to go forward with regularity. Chlorine is quoted at $2.50 per 100 pounds, in tanks, or multi-unit cars, in large drums, at works.

ROSIN.—Weakness developed in the rosin market. The grades of gum rosin used in the paper mills are quoted at from $5.55 to $6.30 per 280 pounds, in barrels, at yards. Wood rosin is selling at $4.30 per 280 pounds in barrels, car lot quantities at southern shipping points.

SALT CAKE.—Conditions in the salt cake market are fairly satisfactory. The contract movement is well up to average. Salt cake is still quoted at from $16 to $17; German salt cake at from $15.50 to $16; and chrome salt cake at from $14 to $15 per ton, in bulk, at works.

SODA ASH.—No radical changes were reported in the soda ash market. Supplies are moving into consumption in fair volume for the time of year. Quotations on soda ash, in car lots, at works, per 100 pounds, are as follows: in bulk, $1; in bags, $1.15; and in barrels, $1.38.

STARCH.—The starch market is exhibiting a strong undertone. Contract shipments are going forward at a normal pace for the season. Prices remain unchanged. Special paper making starch is quoted at $2.67, in bags; and at $2.94 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Although the sulphate of alumina market is dull at present, the contract movement is fairly satisfactory. Commercial grades are quoted at from $1.25 to $1.40; while iron free is selling at from $1.90 to $2.05 per 100 pounds, in barrels, at works.

SULPHUR.—The sulphur market continues steady. Sulphur is quoted at $18 per long ton, on orders of 1,000 tons, or over, on yearly contracts; and at $20 per ton for any smaller quantity over that period. On spot and nearby car loads, the quotation is $21 per ton.

TALC.—Most of the business transacted in the talc market was routine. The contract movement is seasonal. Prices are steady. Domestic talc is quoted at from $16 to $18 per ton, in bulk; while imported talc is selling at from $18 to $22 per ton, in bags, ship side.

Market Quotations

Paper

(F. o. b. Mill)

Ledgers	11.00	@38.00
Bonds	6.75	@53.25
Writings—		
Extra Superfine	14.00	@32.00
Superfine	14.00	@32.00
Tub sized	10.00	@15.00
Engine sized	6.75	@11.00
Book, Cased—		
S. & S. C.	5.25	@ —
M. F.	5.00	@ —
Coated and Enamel	6.75	@10.25
Lithograph	7.25	@11.75
Tissues—Per Ream—		
White No. 1	.65	@ .70
Anti-Tarnish M. G. only	.65	@ .70
Colored	.70	@ .90
White No. 2	.55	@ .60
Kraft	.65	@ .70
Manila	.55	@ .60
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.00	@ 5.25
No. 2 Wood	3.50	@ 4.00
Butchers	3.37½	@ —
Fibre Papers—		
No. 1 Fibre	4.25	@ 5.50
No. 2 Fibre	4.00	@ 4.75
Common Bogus	1.50	@ 3.00
Screenings	2.00	@ 3.00
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs., No. 1	.09¾	@ —
No. 2	.11¼	@ —
Bleached, basis 20 lbs.	.11¾	@ —

(Delivered New York)

News, per ton—		
Rolls, contract	57.00	@ —
Rolls, spot	57.00	@ —
Sheets	62.00	@ —
Side Runs	42.00	@46.00
Kraft—		
No. 1 Domestic	4.25	@ 5.30
No. 2 Domestic	3.50	@ 4.00
Southern	3.50	@ 4.00
Imported	6.00	@ 7.00
Boards—per ton—		
News	30.00	@32.50
Straw	40.00	@45.00
Chip	27.50	@30.00
Binders' Boards	65.00	@70.00
Standard 85 Test Liner	32.50	@35.00
Sgl. Mla. Ll. Chip	42.50	@45.00

(F. o. b. Mill)

Wood Pulp Boards	70.00	@80.00

Mechanical Pulp

(On Dock)

No. 1 Imported—		
Moist	27.00	@30.00
Dry	30.00	@34.00

(F. o. b. Mill)

No. 1 Domestic	25.00	@30.00

Chemical Pulp

(On Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	2.50	@ 3.50
Easy Bleaching	2.15	@ 2.35
No. 1 strong unbleached	2.00	@ 2.35
Mitscherlich unbleached	2.10	@ 2.25
No. 2 strong unbleached	1.90	@ 2.00
No. 1 Kraft	1.50	@ 1.70
No. 2 Kraft	1.35	@ 1.55
Sulphate—		
Bleached	2.75	@ 3.25

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	2.25	@ 4.75
Easy Bleaching	2.55	@ 2.75
News	1.80	@ 2.50
Mitscherlich	2.40	@ 3.15
Kraft (Domestic)	1.60	@ 2.75

(Delivered Paper Mills)

Soda Bleached	3.00	@ —

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	7.00	@ 7.45
New White, No. 2	6.00	@ 6.50
Silesias No. 1	5.25	@ 5.50
New Unbleached	7.25	@ 7.75
New Blue Prints	4.00	@ 4.50
New Soft Blacks	3.50	@ 4.00
Blue Overall	5.25	@ 5.50
Fancy	3.75	@ 4.00
Washables	3.50	@ 3.75
Mixed Khaki Cuttings	4.00	@ 4.50
Pink Corset Cuttings	6.00	@ 6.50
O. D. Khaki Cuttings	5.00	@ 5.25
Men's Corduroy	3.00	@ 3.50
New Mixed Blacks	3.00	@ 3.25

Old Rags

White, No. 1—		
Repacked	5.25	@ 5.75
Miscellaneous	4.25	@ 4.75
White, No. 2—		
Repacked	3.00	@ 3.50
Miscellaneous	2.30	@ 2.50
St. Soiled, White	1.50	@ 1.75
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.65	@ 1.85
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.25	@ 1.30
No. 1	1.25	@ 1.30
No. 2	.90	@ 1.00
No. 3	.70	@ .80
No. 4	.65	@ .70
No. 5A	.50	@ .60

Foreign Rags

New Rags

New Dark Cuttings	2.00	@ 2.15
New Mixed Cuttings	2.10	@ 2.40
New Light Silesias	5.00	@ 5.38
Light Flannelettes	5.00	@ 5.25
Unbleached Cuttings	7.00	@ 7.50
New White Cuttings	6.50	@ 6.75
New Light Oxfords	5.00	@ 5.50
New Light Prints	3.50	@ 3.75

Old Rags

No. 1 White Linens	6.50	@ 6.75
No. 2 White Linens	5.75	@ 5.25
No. 3 White Linens	4.00	@ 4.50
No. 4 White Linens	2.50	@ 3.00
No. 1 White Cotton	4.50	@ 5.00
No. 2 White Cotton	3.50	@ 4.25
No. 3 White Cotton	2.50	@ 3.25
No. 4 White Cotton	1.50	@ 1.75
Extra Light Prints	2.50	@ 2.75
Ord. Light Prints	2.00	@ 2.25
Med. Light Prints	1.65	@ 1.75
Dutch Blue Cottons	1.80	@ 1.90
French Blue Linens	2.50	@ 2.60
German Blue Linens	2.25	@ 2.40
German Blue Cottons	1.75	@ 1.85
Checks and Blues	1.60	@ 1.75
Lindsay Garments	1.10	@ 1.20
Dark Cottons	.75	@ .80
Old Shopperies	.70	@ .75
New Shopperies	.70	@ .75
French Blues	1.80	@ 1.90

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.65	@ 1.80
Domestic	1.65	@ 1.80
Wool Tares, light	1.25	@ 1.30
Wool Tares, heavy	1.25	@ 1.30
Bright Bagging	1.20	@ 1.30
Small Mixed Rope	.90	@ 1.00
Manila Rope—		
Foreign	2.00	@ 2.15
Domestic	2.10	@ 2.25
New Burlap Cut	1.80	@ 1.90
Hessian Jute Threads—		
Foreign	2.60	@ 2.75
Domestic	2.80	@ 3.00

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, white, No. 1	2.75	@ 2.85
Hard, white, No. 2	2.20	@ 2.30
Soft, white, No. 1	2.20	@ 2.30
White envelope cuttings	2.60	@ 2.70
Flat Stock—		
Stitchless	.85	@ .95
Overissue Mag.	.85	@ .95
Solid Flat Book	.75	@ .85
Crumpled No. 1	.60	@ .65
Solid Book Ledger	1.75	@ 1.85
Ledger Stock	.80	@ .85
New B. B. Chips	.20	@ .30
Manilas—		
New Env. Cut	2.00	@ 2.20
New Cuttings	1.50	@ 1.65
Extra No. 1 old	1.20	@ 1.30
Print	.50	@ .60
Bogus Wrapper	.50	@ .60
Container	.25	@ .30
Old Kraft Machine— Compressed bales	1.10	@ 1.20
News—		
No. 1 White News	1.60	@ 1.70
Strictly Overissue	.40	@ .45
Strictly Folded	.30	@ .35
No. 1 Mixed Paper	.15	@ .25
Common Paper		Nominal

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Laboratories and Experimental Mill

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Steam and Hydro-electric Power Plants.
Dams and other Hydraulic Structures.

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are rapidly expanding, so we are improving our facilities, and are prepared to ship promptly in Tank Cars, Multi-Unit Tank Cars (1-ton containers), or Cylinders (150 lbs. or 100 lbs.) from either Philadelphia, Pa., Wyandotte, Mich., Menominee, Mich., or Tacoma, Wash.

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Works:
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MANAGEMENT ENGINEERS

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SPRINGFIELD SYRACUSE KANSAS CITY SAN FRANCISCO

Twines

(F. o. b. Mill)

Cotton—
- B. C., 18 basis .... .32 @ .34
- No. 1 ..... .22 @ .24
- No. 2 ..... .21 @ .22
- No. 3 ..... .19 @ .20
- A. Italian, 18 basis .38 @ .39

Finished Jute—
- Dark, 18 basis .... .20½ @ .21
- Light, 18 basis .... .22½ @ —

Jute Wrapping, 3-6 Ply—
- No. 1 ..... .14¾ @ —
- No. 2 ..... .13¾ @ —

Tube Rope—
- 4-ply and larger... .10¼ @ —

Fine Tube Rope—
- 4-ply ..... .12¾ @ —
- 3-ply ..... .13¾ @ —
- 2-ply ..... .14¾ @ —

Paper Makers Twine
- Balls ..... .08¾ @ —

Box Twine, 2-3 ply.. .09 @ .10
Jute Rope ..... .11 @ .12
Amer. Hemp, 6..... .29 @ .31
Java Sisal—
- No. 1 Basis..... .12 @ —
- No. 2 Basis..... .11¾ @ —

New Zealand Sisal.. .11½ @ —
Sisal Lath Yarn—
- No. 1 ..... .14 @ .16
- No. 2 ..... .12 @ .14

Manila Twine ..... .22½ @ .24½

CHICAGO

Paper

(F. o. b. Mill)

Rag Bond ..... .30 @ .53¼
Water Marked Sulphite Bond ..... .09 @ .12
Sulphite Bond ..... .06¾ @ .11
Superfine Writing .... .18 @ .24
No. 1 Fine Writing.. .14 @ .18
No. 2 Fine Writing.. .12 @ .14
No. 3 Fine Writing.. .08½ @ .12
No. 1 M. F. Book.. .06½ @ .07¼
No. 2 M. F. Book.. .05¼ @ .06¼
No. 1 S.&S.C. Book .06¾ @ .07¾
No. 2 S.&S.C. Book .05¾ @ .06½
Coated Book ..... .07½ @ .12
Coated Label ..... .07½ @ .10
No. 1 Manila ..... .04¼ @ .05¾
No. 1 Fibre ..... .04¼ @ .05¼
No. 2 Manila..... .04¼ @ .04¾
Butcher's Manila ... .04 @ .04½
No. 1 Kraft..... 5.00 @ 5.50
Southern Kraft ..... 3.75 @ 4.00
No. 2 Kraft ..... 3.75 @ 4.00
Wood Tag Boards... .04¼ @ .06¼
Sulphite Screenings.. .03 @ .03¼
Manila Tissue ..... .07 @ .07¼
White Tissue ..... .07¼ @ .07½

(Delivered Central Territory)

News, per ton—
- Rolls, contract....62.00 @ —
- Sheets .....67.00 @ —

Boards, per ton—
- Plain Chip .....30.00 @35.00
- Solid News .....32.50 @37.50
- Manila Lined Chip...40.00 @45.00

Container Lined—
- 85 Test .....50.00 @55.00
- 100 Test .....55.00 @60.00

Old Papers

(F. o. b. Chicago)

Shavings—
- No. 1 Hard White. 2.35 @ 2.40
- White Env. Cuttings ..... — @ —

No. 1 Soft Shavings. 2.10 @ 2.15
Ledger & Writings.. .70 @ .75
Solid Books ..... .75 @ .80
Blanks ..... 1.60 @ 1.65
Kraits ..... 1.25 @ 1.35
New Kraft Cuts..... 1.35 @ 1.45
Manila Env. Cuts... 1.50 @ 1.55
Ex. No. 1 Manila... 1.25 @ 1.30
Print Manila ..... .40 @ .45
Ovenissue News .... .40 @ .45

Old Newspapers—
- No. 1 ..... .35 @ .40
- No. 2 ..... .30 @ .35

Mixed Papers—
- No. 1 ..... .28 @ .30
- No. 2 ..... .20 @ .25

Roofing Stocks—
- No. 1 .....30.00 @ —
- No. 2 .....28.00 @ —

PHILADELPHIA

Paper

(F. o. b. Mill)

Bonds ..... .05 @ .40
Ledgers ..... .07 @ .40
Writings—
- Superfine ..... .12 @ .18
- Extra fine ..... .16 @ .22
- Fine ..... .15 @ .26
- Fine, No. 2..... .13½ @ .25
- Fine, No. 3..... .08½ @ .20

Book, M. F..... .05 @ .07
Book, S. S. & C..... .05 @ .07½
Book, Coated ..... .08 @ .16
Coated Lithograph... .07 @ .11
Label ..... .07 @ .11
No. 1 Jute Manila... .07 @ .09
Manila Sul., No. 1.. .03¼ @ .05½
Manila No. 2..... .03 @ .04
No. 1 Kraft..... .05¼ @ .06
No. 2 Kraft..... .03½ @ .04
Southern Kraft No. 1 — @ .03¾
Southern Kraft No. 2 — @ .03¾
Common Bogus ..... .03 @ .04

(Delivered Philadelphia)

News Print Rolls...62.00 @ —
Straw Board .....50.00 @ —
News Board .....32.50 @ —
Chip Board .....30.00 @ —
Wood Pulp Board...85.00 @95.00

Binder Boards—
- No. 1, per ton....75.00 @ —
- No. 2, per ton....68.00 @ —
- Carload lots .....66.00 @70.00

Tarred Felts—
- Regular .....55.50 @57.00
- Slaters (per roll).. .84 @ .94

Best Tarred, 1-ply (per roll) ..... 1.95 @ 2.10
Best Tarred, 2-ply (per roll) ..... 1.50 @ 1.60
Best Tarred, 3-ply... 2.00 @ 2.25

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—
- New White, No. 1. .06 @ .07
- New White, No. 2. .05½ @ .06
- Light Silesias .... .05 @ .05½
- Silesias, No. 1.... .06 @ .08
- Black Silesias, soft. .05 @ —
- New Unbleached .. .06½ @ .07
- Washable, No. 1.. .03 @ .03½

Blue Overall ..... .05 @ .05½
Cottons—According to grades—
- Washable, No. 2... .02 @ .02½
- New Blue ..... .02 @ .02½
- Fancy ..... .03¼ @ —
- New Black Soft... .03 @ .03½
- New Light Seconds .01¾ @ .02
- New Dark Seconds 1.85 @ 2.00

Khaki Cutting—
- No. 1 O. D..... .04½ @ .05
- No. 2 Mixed..... .03½ @ .04

Corduroy ..... .02½ @ .03
- New Canvas ..... .06½ @ .07
- New Black Mixed. .03 @ .03½

Domestic Rags (Old)

White No. 1—
- Repacked ..... 3.50 @ 4.00
- Miscellaneous .... 2.50 @ 3.00
- M. G. ..... 4.50 @ —

Thirds and Blues—
- Miscellaneous .... 1.25 @ 1.50
- Repacked ..... 1.75 @ 2.00
- Black Stockings (Export) ..... 3.80 @ 4.00

Roofing Stock—
- Foreign No. 1.... 1.15 @ 1.25
- Repacked ..... .80 @ .90

Bagging

(F. o. b. Phila.)

Gunny, No. 1—
- Foreign ..... 1.50 @ 1.60
- Domestic ..... 1.75 @ —
- Manila Rope ..... 2.50 @ 2.75

Sisal Rope ..... 1.25 @ 1.50
Mixed Rope ..... 1.10 @ 1.25

Scrap Burlaps—
- No. 1 ..... 1.50 @ 1.60
- No. 2 ..... 1.10 @ 1.20

Wool Tares, heavy.. 3.00 @ —
- Mixed Strings..... 1.15 @ 1.25

No. 1 New Light Burlap ..... 2.50 @ 2.75
New Burlap Cuttings 2.00 @ 2.25

Old Papers

(F. o. b. Phila.)

Shavings—
- No. 1 Hard White 2.50 @ 2.60
- No. 2 Hard White 2.10 @ 2.25
- No. 1 Soft White.. 2.15 @ 2.25
- No. 2 Soft White.. 1.35 @ 1.50
- No. 1 Mixed..... .80 @ .90
- No. 2 Mixed..... .55 @ .65

Solid Ledger Stock.. 1.50 @ 1.60
Writing Paper ..... 1.05 @ 1.25
No. 1 Books, heavy.. 1.00 @ 1.15
No. 2 Books, light.. .90 @ .95
No. 1 New Manila.. 2.15 @ 2.30
No. 1 Old Manila... 1.40 @ 1.50
Print Manila ..... .50 @ .60
Container Manila ... .45 @ .50
Old Kraft ..... 1.15 @ 1.20
Common Paper ..... .25 @ .30
No. 1 Mixed Paper.. .25 @ .30
Straw Board, Chip.. .35 @ .40
Binders Board, Chip. .35 @ .45
Corrugated Board ... .50 @ .60
Overissue News .... .40 @ .45
Old Newspaper ..... .25 @ .30

BOSTON

Paper

(F. o. b. Mill)

Ledgers—
- Sulphite ..... .07½ @ .12½
- Rag Content ..... .15 @ .30
- All Rag ..... .38 @ .52½

Bonds—
- Sulphite ..... .06½ @ .11½
- Rag content ..... .15 @ .30
- All rag ..... .36½ @ .65

Writings ..... .06½ @ .20
- Superfines ..... .11 @ .31

Book, Super ..... .06 @ .09
Book, M. F. ..... .05½ @ .08½
Book, Coated ..... .08½ @ .18
Coated Litho ..... .09 @ .12
Label ..... .09½ @ .15
Jute Manila No. 1.. .11 @ .13
Manila, Sul. No. 1.. .04¾ @ .06½
Manila, Sul. No. 2.. .03¾ @ .04½
No. 1 Kraft..... .04½ @ .05½
No. 2 Kraft..... .03½ @ .04¾

(F. o. b. Boston)

Southern Kraft ..... .03½ @ .03¾

(F. o. b. destination in carload lots, f. o. b. mill in less than carload lots.)

Common Bogus ..... .02 @ .02¾

(Delivered New England points)

News Print, rolls....61.50 @ —
Straw Board, rolls.009 — @52.50
Straw Board in Sheets, basis 35s to 70s ..... — @50.00
Filled News Board..32.50 @ —
Chip Board .....27.50 @ —
Chip Board (Creasing) .....32.50 @ —
Single Manila Lined Chip ..... — @42.50

Single White, Patent Coated News Board—
- Binder, No. 1...60.00 @75.00
- Binder, No. 2...55.00 @65.00

Wood Pulp Board...75.00 @80.00
Binder Boards .....67.50 @75.00

Old Papers

(F. o. b. Boston)

Shavings—
- No. 1 Hard White 3.25 @ 3.75
- No. 2 Hard White 2.60 @ 2.90
- No. 1 Soft White.. 2.25 @ 2.40
- No. 2 Mixed..... .60 @ .65
- No. 1 Mixed..... .90 @ 1.00

Solid Ledger Books.. 1.75 @ 2.00
Overissue Ledger Stock ..... 1.35 @ 1.60
Mixed Ledgers ..... 1.15 @ 1.30
No. 1 Books, heavy.. .75 @ .90
No. 1 Books, light.. .55 @ .70
Crumpled Stitchless Book Stock ..... 1.00 @ 1.25
Manila Env. Cuttings 1.85 @ 2.00
No. 1 Old Manila... — @ 1.00
White Blank News.. 1.50 @ 1.60
Kraft No. 1..... — @ 1.10
Manila ..... .80 @ .90
No. 1 Mixed Paper.. — @ .16
Overissue News .... — @ .40
Old Newspapers .... .25 @ .30
Box Board, Chip.... .16 @ .20
Corrugated Boxes... .35 @ .45

Bagging

(F. o. b. Boston)

Gunny No. 1—
- Foreign ..... — @ 1.80
- Domestic ..... 1.60 @ 1.70

Manila Rope—
- Foreign ..... — @ 2.00
- Domestic ..... 2.50 @ —

Transmission Rope .. 1.75 @ —
Mixed Strings ..... — @ .70
Jute Rope ..... 1.25 @ —
Jute Carpet Threads. .90 @ 1.05
Bleachery Burlap.... — @ 3.25
No. 1 Scrap Burlap. — @ 1.25
Scrap Sisal ..... 1.40 @ 1.50
Scrap Sisal for shredding ..... 1.50 @ 1.60
Wool Tares, heavy... 1.30 @ —
New Burlap Cutting. 1.75 @ 2.00
Australian Pouches.. 2.50 @ —
Heavy Baling Bagging ..... — @ 1.75
Paper Mill Bagging.. .95 @ 1.10
Bagging No. 2..... .50 @ —
No. 1 Burlap..... — @ 3.50

Domestic Rags (New)

(F. o. b. Boston)

Shirt Cuttings—
- New White No. 1. .06½ @ .07
- New White No. 2. — @ .06
- Silesias No. 1.... .06 @ .06¼
- New Black Silesias .02½ @ .02¾
- New Unbleached.. — @ .08
- Fancy ..... .04 @ .04½
- Washable ..... .04 @ .04½

Cottons—According to grades—
- Blue Overalls .... .05 @ .06

New Black, soft.... .04 @ .04¼
Khaki Cuttings .... .04 @ .04½
O. D. Khaki..... .04½ @ .05
Corduroy ..... .03 @ .03½
New Canvas ..... .08 @ .08½

Domestic Rags (Old)

(F. o. b. Boston)

Canvas ..... .04½ @ —
White No. 1—
- Repacked ..... 4.75 @ 5.25
- Miscellaneous .... — @ 4.00

White No. 2—
- Repacked ..... .04½ @ .05
- Miscellaneous .... .03½ @ .04

Twos and Blues..... 2.50 @ 2.75
Thirds and Blues—
- Repacked ..... 1.60 @ 1.80
- Miscellaneous .... 1.00 @ 1.20

Black Stockings .... 3.25 @ 3.50
Roofing Stock—
- No. 1 ..... .75 @ .80
- No. 2 ..... .65 @ .70
- No. 3 ..... .50 @ .60

Foreign Rags

(F. o. b. Boston)

Dark Cottons ..... — @ .75
New No. 1 White Shirt Cuttings .... 7.75 @ 8.00
Dutch Blues ..... — @ 1.80
New Checks & Blues 4.00 @ 4.50
Old Fustians ..... 1.65 @ 1.75
Old Linsey Garments .85 @ .95

TORONTO

Paper

(F. o. b. Mill)

Bond—
- No. 1 Sulphite.... .12½ @ —
- No. 2 Sulphite.... .09¾ @ —
- No. 1 Colored..... .13½ @ —
- No. 2 Colored..... .09½ @ .10½

Ledgers (sulphite)... — @ —
Ledgers, No. 1..... .36 @ —
Ledgers, No. 2..... .27 @ —
Writing ..... .09½ @ .10
Book—
- No. 1 M. F. (carloads) ..... 7.12½ @ 7.60
- No. 2 M. F. (carloads) ..... 6.90 @ 7.35
- No. 3 M. F. (carloads) ..... 6.65 @ 7.15
- No. 1 S. C. (carloads) ..... 7.60 @ 8.10
- No. 2 S. C. (carloads) ..... 7.35 @ 7.85
- No. 3 S. C. (carloads) ..... 7.12½ @ 7.60
- No. 4 S. C. (carloads) ..... 5.95 @ 6.40
- No. 1 Coated and Litho .....13.25 @ —
- No. 2 Coated and Litho .....12.25 @ —
- No. 3 Coated and Litho .....10.00 @11.50

Coated tinted ....14.50 @ —

Wrapping—
- Rag Brown ..... 4.95 @ —
- White Wrap ..... 5.25 @ —
- "B" Manila ..... 5.00 @ —
- No. 1 Manila..... 5.40 @ —

Fiber ..... 5.40 @ —
Kraft, M. F..... 5.90 @ —
Kraft No. 2..... 5.40 @ —

(Delivered Toronto)

News, per ton—
- Rolls (contract)...61.50 @62.00
- Sheets .....67.00 @ —

Pulp

(F. o. b. Mill)

Ground Wood .....30.00 @32.00
Sulphite easy bleaching .....50.00 @ —
Sulphite, news grade.70.00 @ —
Sulphite, bleached...72.50 @75.00
Sulphate .....60.00 @ —

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—
- White Env. Cut... 2.80 @ —
- Soft White ..... 2.60 @ —
- White Blk. News.. 1.50 @ —

Book and Ledger—
- Flat Magazine and Book Stock (old) 1.10 @ —
- Light and Crumpled Book Stock. 1.20 @ —
- Ledgers and Writings ..... — @ —

Manilas—
- New Manila Cut.. 1.50 @ —
- Printed Manilas... .80 @ —
- Kraft ..... 1.90 @ —

News and Scrap—
- Strictly Overissue.. .70 @ —
- Strictly Folded.... .70 @ —

No. 1 Mixed Paper.. .60 @ —

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings ..... .09½ @ .10
Fancy Shirt Cuttings .06 @ .06¾

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PAPER TRADE JOURNAL
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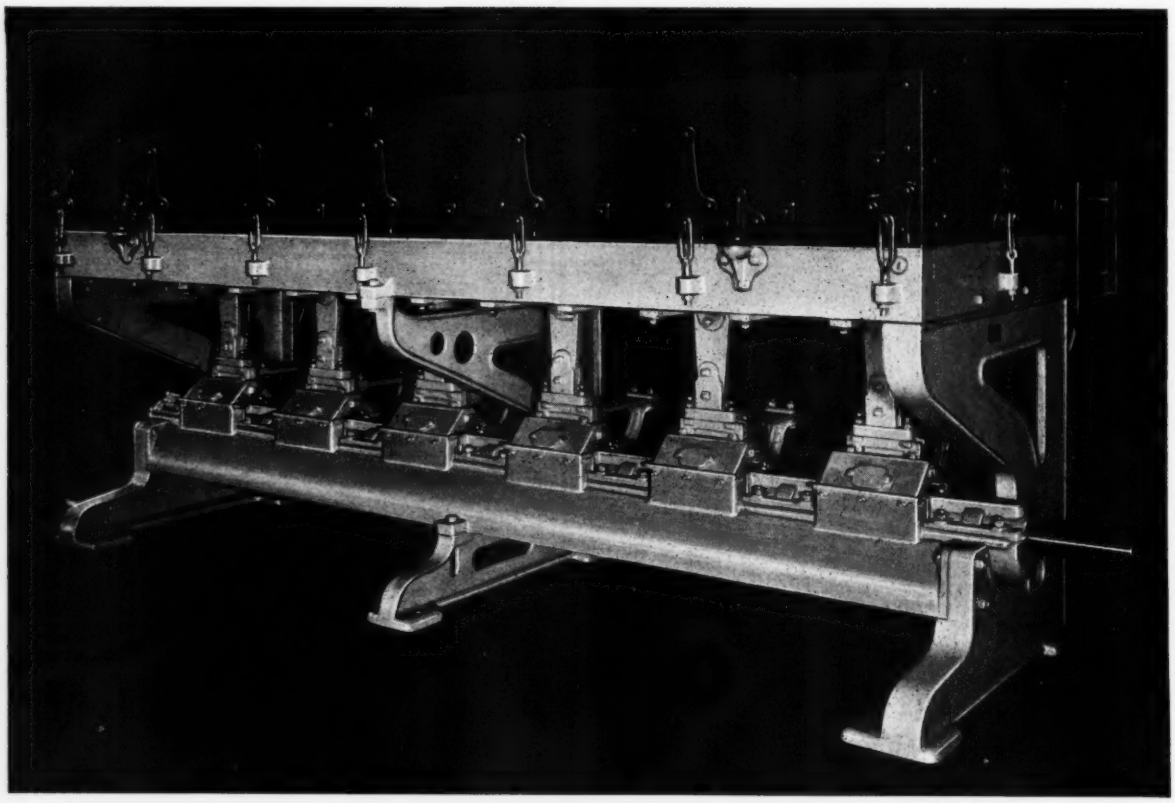

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